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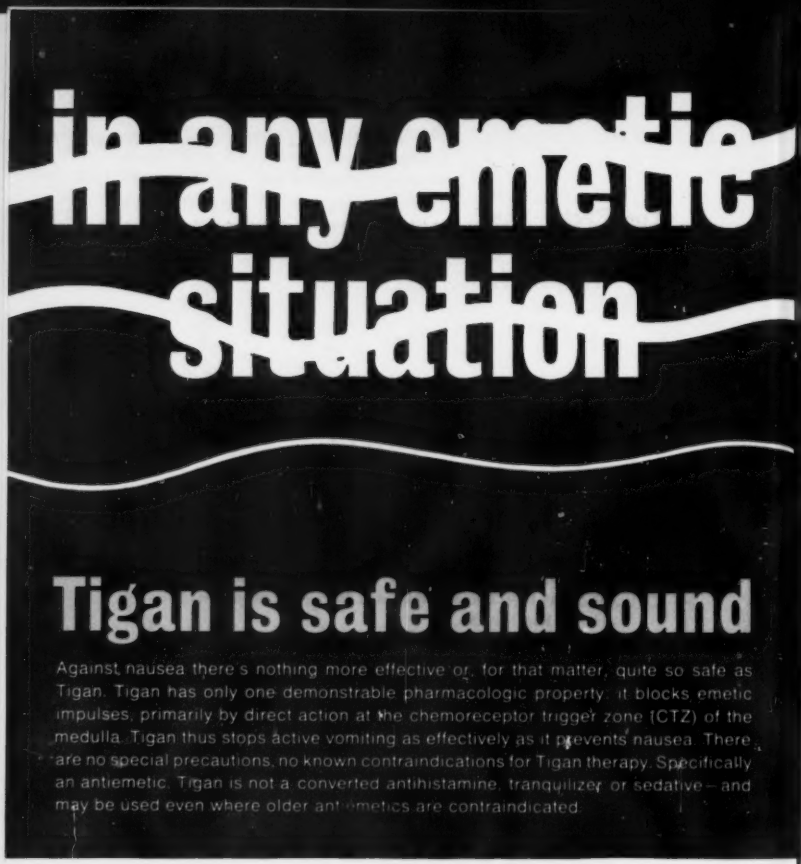
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Symptoms, Signs and Findings in Cases of Brain Tumor

JAMES M. NORTHINGTON, M.D., *Editor-in-Chief*

►*Both the difficulty and the importance of making this diagnosis are appreciated by every good doctor. The lessons of an article which is most helpful are passed on for the instruction of the readers in how to render their patients the very best service by reducing the errors in such diagnoses to a minimum.*◄

No group of symptoms is pathognomic of an intracranial tumor. Headache, vomiting, and choked disc, the triad commonly considered characteristic, appear early in some cases, in others not until the terminal stages, and in some never.

Brain tumors may produce symptoms of increased intracranial pressure, symptoms of damage to adjacent brain tissue and symptoms of focal irritation. Pituitary tumors usually produce endocrine disorders as well. The symptoms are usually progressive. The difficulty in diagnosis arises when the tumor fails to produce these symptoms. Some of the patients in this series presented with no symptoms except headache, and no abnormalities upon clinical examination. Yet 40 per cent of these patients had no history of headache. Some gave an almost diagnostic history of a gradually progressive hemiparesis, yet no motor loss was found in half of the cases; some gave a definite history of focal or Jacksonian seizures yet two-thirds gave no history of convulsions.

Case Reports

A man of 45 years for several years had occasional mild headache. Four years before, a lump had appeared in the right frontoparietal area and gradually enlarged. In the previous year he had two grand mal seizures. Recently he had been admitted to a state hospital with the diagnosis dementia praecox. Brain tumor had previously been diagnosed but surgery was refused. On examination a somewhat nodular, oval 2 by 3½ inches

mass was easily palpable in the right frontoparietal region. The mass was hard, not tender, and did not pulsate. Neurological abnormalities consisted of slight nerve type hearing loss and slight weakness of dorsiflexion of the left foot. X-rays were reported to show an extensive area of cystic medullary bone absorption with some expansion of the outer and inner cortical margins of both parietal bones. An electroencephalogram revealed high-voltage theta waves and occasional delta waves which were intermittent and diffuse with a right sided preponderance. The spinal fluid pressure was 300 mm. of water and its protein normal. At operation a large meningioma found under the bony abnormality of the skull was completely removed with the overlying involved bone and with the involved segment of sagittal sinus.

The diagnosis remained obscure for a long time in the case of a man of 47 years whose intermittent frontal headaches had begun six months previously, many of them with the sensation of impending loss of consciousness. Consciousness was lost on only one occasion—three months after the onset of headache. A number of physicians had found no abnormalities. Over-indulgence in alcohol confused the picture. "The odor of green pecans" was a recent experience. Neurological examination six months after onset revealed only a bilateral early but definite papilledema; an ECG revealed a slow wave focus in the right frontotemporal area. Following ventriculography a right temporal lobe glioblastoma multiforme was removed.

Signs and Symptoms

In this series of 100 cases of brain tumor, the first symptom to appear was as follows: headache, 38; convulsions, 23; motor loss, 20; ataxia, six; cranial nerve defect, four; impaired vision, four; impaired mentation, two; lump on head, two; impaired consciousness, one.

At the time of neurological consultation, the presenting symptoms and signs in these 100 cases were as follows: headaches, 60; motor loss, 50; papilledema, 42; convulsions, 34; impaired consciousness, 25; impaired mentation, 25; vomiting, 23; ataxia, 21; sensory loss, 11; cut visual field, 11; cranial nerve defect, seven; impaired vision acuity, six; lump on head, three.

Evidently headache, motor loss, papilledema, and convulsions are the predominant findings, yet only headache was found in more than half of the cases. Papilledema's presence in only 42 per cent of these cases may be surprising. Spinal fluid

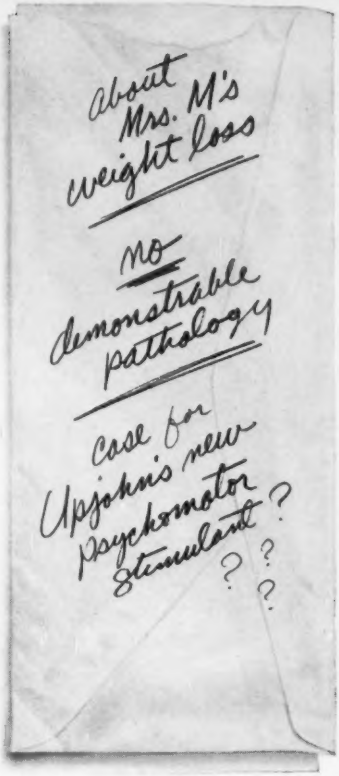
pressure was elevated in only 52 per cent of the 44 cases having lumbar puncture. This was done only with clinically evident increased pressure. The spinal fluid protein was elevated in 72 per cent. Routine skull x-rays were diagnostic in the few instances of involvement of adjacent skull, calcification within the tumor, or pineal shift. While not diagnostic in itself, ECGs have proved useful. Evidently, all of the various signs and symptoms must be kept in mind, and a high index of suspicion toward brain tumor.

The diagnosis is very often made only on demonstration by ventriculo-, pneumoencephalo- or arterio-graphy.

Twenty-seven of the patients in this series had completely benign brain tumors which were removed with no operative mortality. Of the total 100 cases, 5 per cent died within one week of surgery, 13 per cent within one month. The 42 patients whose brain tumors were classified as glioblastoma had an average survival time of five months after operation.

One such patient survived five years and one is still living and neurologically intact eight years after her first craniotomy. Six months ago a second operation was required.◀

Sherman, I. J., *Connecticut Med.*, 25:484-485, 1961.



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Medical Problems Encountered in Rehabilitation

MENARD M. GERTLER, M.D.,* DONALD A. COVALT, M.D.,* and HOWARD A. RUSK, M.D.,* *New York, New York*

►*The concept of rehabilitation involves team work, cooperation between many disciplines, and a proper evaluation of the patient from diverse viewpoints. The judicious use of proper medical techniques in the supportive therapy of the patient is so necessary that a survey in each patient is mandatory.*◄

An attempt is made to survey the major medical problems encountered in patients undergoing rehabilitation. In addition, an attempt will be made to demonstrate the type of preventive therapy from which the patient may benefit.

The Problem

Rehabilitation encompasses pediatrics to geriatrics. There are problems from asthma to atherosclerosis, cerebral palsy to cerebrovascular accidents, and from poliomyelitis to paraplegia. Each of these disease categories has special medical problems which if unrecognized hinder the progress of rehabilitation. In addition to medical assistive management in rehabilitation, the area affords great opportunities for research into basic mechanisms of disease.

Survey of Medical Problems

Muscular dystrophy is a unique disease involving the muscle mass of the body. One of the interesting features of this disease is the cardiac involvement. Research achieved in this Institute has revealed unusual electrocardiographic patterns.[1] This observation coupled with the clinical findings of sudden death in many of these patients due to cardiac failure makes the biochemical studies reported in this disease not only of theoretical interest but of practical value as well. Biochemists have reported

*New York University Medical Center, Institute of Physical Medicine and Rehabilitation.

1. Greenspan, L., & Gertler, M. M., Data in preparation.

elevations in the serum of those enzymes which are related to oxidative phosphorylation and glycolysis, e.g. cytochrome oxidase and aldolase. In addition, adenosine triphosphatase is also elevated enormously.[2] It is postulated that in muscular dystrophy the energy requirement of the heart is constantly being dissipated by the destruction of adenosine triphosphate by adenosine triphosphatase; this hypothesis is being tested at the present time. From a practical viewpoint, caution with regard to over-zealous rehabilitation in these patients is indicated because any activity which would tend to increase cardiac output would hamper cardiac activity. From a bio-energetic viewpoint, cardiac metabolic activity would tend to be increased as the result of the presence of non-productive cardiac muscle. This will doubtless lead to cardiac standstill. Hence, an investigation in this area may lead not only to an understanding of muscular dystrophy, but of cardiac failure in general.

Quadriplegia and Paraplegia

In addition to the well-known urologic complications in paraplegics and quadriplegics, there are two medical syndromes which merit describing. The first syndrome involves the respiratory system. The difficulty which the quadriplegic has in expiring and inspiring decreases effective vital capacity and thereby produces an accumulation of CO_2 and a depletion of serum chlorides. Because it decreases oxygenation this syndrome will interfere markedly with rehabilitation of the quadriplegic unless it is corrected. The main cause of this syndrome is a profound weakness in the accessory muscles of respiration, abdominal recti muscles, and the diaphragm. This muscle weakness results in a decreased lung filling due to mechanical factors and consequently disturbs the physiologic mechanisms which result in the respiratory syndrome described. Corrective measures are designed to ameliorate the mechanical difficulties and thereby correct the basic cause of the syndrome. A Barach-Gordon belt is placed on the abdomen. This belt not only increases the intra-abdominal pressure to assist the diaphragm, but also prevents the abdominal musculature from becoming paradoxical in action during expiration.[3]

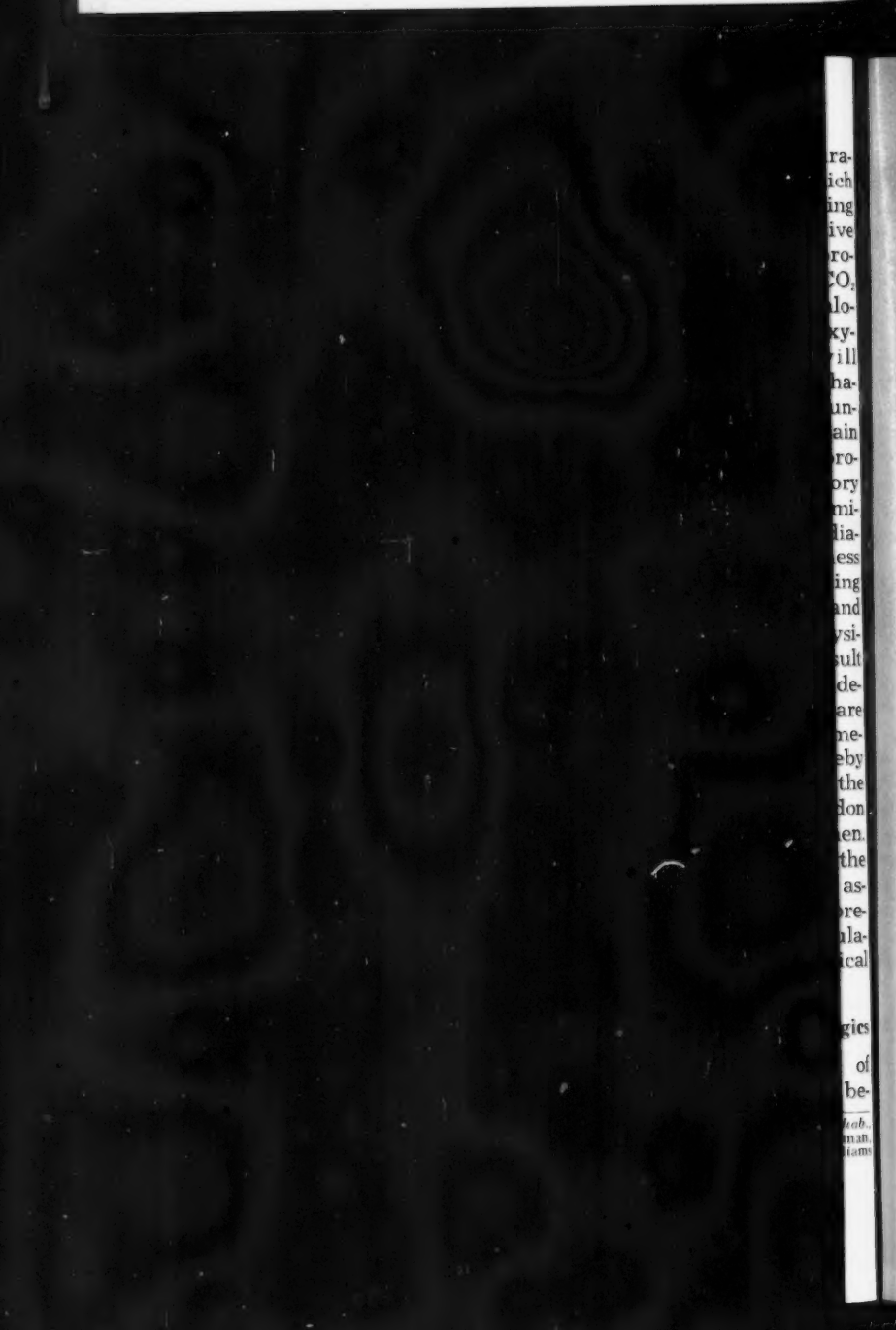
Syncopal Syndrome of Paraplegics

During the rehabilitation of paraplegics much energy is be-

2. Dreyfus, J. C., et al., *Ann. New York Acad. Sc.*, 75:255,1958.

3. Barach, A. L., *Arch. Phys. Med. & Rehab.*, 36:379,1955. Barach, A. L., & Bickerman, H. A., Pulmonary Emphysema, Williams and Wilkins, Co., Baltimore, 1956.





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1. Goodman, L. S., and Gilman, A.: The Pharmacologic Basis of Therapeutics, Second Edition, The Macmillan Company, New York, 1955, pp. 1454-5.

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ing utilized in the form of muscle re-education and physical work. The energy generated in any moving muscle is utilized not only for muscular work, but much of the energy is generated as heat. In a paraplegic patient, the efficiency with which energy is converted into muscular performance power is decreased and heat transference is increased. The paraplegic individual perspires profusely and in excess of the non-paraplegic matched control. There are several interesting features of the perspiration pattern and the sequelae of this physiologic response to exercise in the paraplegic which makes it quite unique. The paraplegic perspires profusely above the area of the spinal cord injury. There is much electrolyte loss, for many of the patients undergoing progressive resistance exercise will undergo syncope, especially during hot weather. An examination of the serum electrolytes reveals a marked drop in serum sodium from 145 mEq. to 125 mEq. and equivalent drops of serum chlorides and serum potassium. The blood pressure falls as well. The picture appears clinically in many respects similar to a salt losing nephritis and Addison's disease. A study is currently being planned to delineate the electrolyte content of the sweat and urine of these patients during exercise. Preventive measures such as air-conditioned rooms, sodium chloride tablets, and graded exercise are important.

The paraplegic patient also experiences urologic problems, i.e., renal calculi, bladder calculi and other renal sequelae which usually result from the aforementioned disorders. These clinical disorders have been described and discussed in many journals and need not be elaborated here.[4]

Hemiplegia

When a case of hemiplegia presents itself for rehabilitation, it is recognized only as a symptom complex and as a rule the underlying etiologic diagnosis has been established. Prior to engaging in the rehabilitation program, a diagnosis is usually attempted. Statistical studies reveal that hemiplegia is usually caused by thrombosis, hemorrhage and embolic phenomena.[5] More bizarre etiologic factors in hemiplegia observed in this Institute have included aneurysms, metastatic lesions, trauma, unrecognized brain tumors, blood dyscrasias, clotting disorders, and carotid artery thrombosis. It is known that more than 25 per cent of all strokes are due to extracranial arterial disease.[6]

4. Burke, M. H., et al., *J.A.M.A.*, 172:121-124,1960.
5. Wright, I. S., *Mod. Conc. Cardiovasc. Dis.*, 4:519,1959.
6. Conf. on Cerebrovasc. Dis., sponsored by Amer. Heart Ass. and Nat. Instit. Health, Princeton, N.J., January 4-6,1961.

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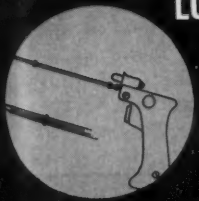
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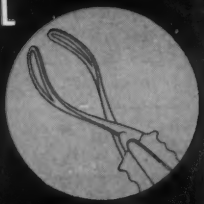
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The underlying diagnosis in hemiplegia is important for the management of the individual problem. Hemiplegia secondary to embolic phenomena resultant from cardiac surgery for mitral stenosis carries a different prognosis than hemiplegia secondary to hemorrhage in a case of clotting disorders, blood dyscrasias, or severe hypertension. Similarly hemiplegia resultant from metastases from cancer of the lung carries a much different prognosis than hemiplegia resultant from primary unrecognized brain tumors which may be operable and benign.

It is for the reasons stated that it is imperative to include every pertinent detail and searching diagnostic test to establish the correct diagnosis in the hemiplegic patient. A classical history, detailed physical examination, spinal taps, cerebral extracranial angiography, blood tests for screening clotting defects such as prothrombin consumption tests, Factor VII, Lee-White clotting time and Stuart Factor are valuable.[7]

Summary

Rehabilitation requires the cooperation of many disciplines. There are many problems in internal medicine which co-exist with the problems of rehabilitation. A few of these problems and the research possibilities offered in the two areas are described. The interdependence of each problem discussed in both internal medicine and rehabilitation is realized from both the clinical and research viewpoints.◄

7. Tage, A., Connective Tissue, Thrombosis and Atherosclerosis, Academic Press, New York, 1959. P. 223.

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Prolotherapy for Sciatica from Weak Pelvic Ligaments and Bone Dystrophy

GEORGE S. HACKETT, M.D., F.A.C.S., and
T. C. HUANG, Ph.D.*
Canton, Ohio

►*Ligament relaxation is diagnosed by finding trigger-point tenderness and is confirmed by intraligamentous needling with a local anesthetic solution. By promoting the growth of new bone and fibrous-tissue cells, prolotherapy strengthens the ligament attachments and eliminates pain, including sciatica.*◄

Sciatic neuritis occurred frequently as a dystrophic complication of weak sacroiliac ligaments in 1857 patients seen during 21 years. Diagnosis by trigger point tenderness of specific ligaments was confirmed by needling. The fibro-osseous attachments of ligament to bone were strengthened by prolotherapy, i.e., the intraligamentous injection of a proliferating solution.

When ligament fibers do not regain their normal tensile strength following strain,[1] the fibers stretch under normal tension and permit excessive tension-stimulation of the non-stretchable sensory nerve fibrils,[2] which are abundant within the fibro-osseous attachments.[3,4] This is the origin of noxious barrages of sensory afferent and antidromic impulses[5-9] which cause pain and bone dystrophy (decalcification[10]). Decalcification[11] in disease, menopause and old age also causes ligament and tendon re-

*Departments of Surgery (Dr. Hackett, Emeritus), and Research (Dr. Huang), Timken Mercy Hospital.

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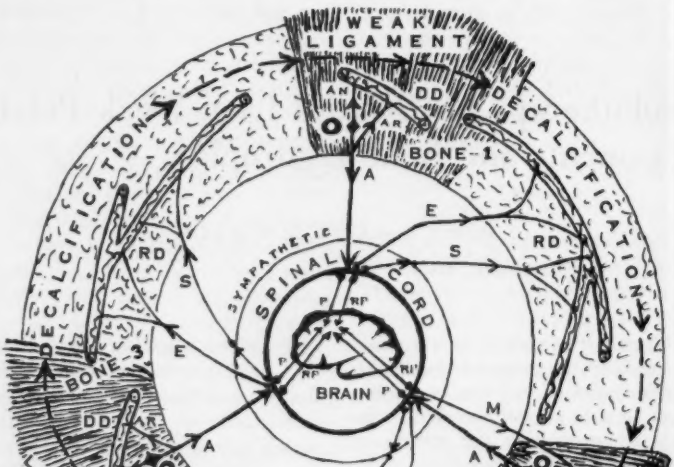


FIGURE 1

O—Origin of neural impulse by traction-stimulation of nerve fibrils within weakened fibro-osseous attachment of ligament to bone
A—Afferent sensory somatic noxious impulse to spinal cord
AR—Axon reflex neurovascular impulse in antidromic direction through afferent fibril
AN—Antidromic neurovascular impulse
DD—Direct decalcification (metabolic)
E—Efferent neurovascular impulse
S—Sympathetic neurovascular impulse
RD—Reflex decalcification (metabolic)
M—Reflex motor impulse to muscle
P—Pain impulse to brain
RP—Referred pain impulse to brain

Note: The etiology may be trauma or disease. All ligament-tendon attachments become weakened when invaded by decalcification and are the origin of most pain in all types of osteoporosis.

laxation[12,13] at their bony attachments.

Tension stimulation on afferent sensory nerves within the weak fibro-osseous attachments of ligament to bone is the origin of barrages of afferent impulses transmitted to the spinal cord and to the brain where they are interpreted as pain and referred pain, while from the same origin barrages of antidromic impulses pass directly and by axon reflex to bone blood vessels and cause a neurovascular disturbance of bone metabolism that results in direct decalcification, which further weakens the ligamentous attachment to bone. From the afferent stimulation in the spinal cord, there are noxious barrages of efferent impulses that cause muscle spasm, while other efferent and sympathetic impulses[14] pass from the same and adjacent cord segments and cause a reflex neurovascular decalcification[10] of larger areas of bone. This weakens the attachment of all ligaments and tendons in the decalcified areas[10,11,15] and completes a vicious circle[2,16] (Figure 1) of ligament relaxation and decalcification.

Relaxation of the posterior sacroiliac ligament is accompanied by local trigger-point pain and tenderness (Figure 2, SI-A, B,C,D) and referred pain areas to the outer anterior thigh (SI) and outer side of the leg.[17,18] Severe relaxation of the sacroiliac ligament results in decalcification of the sacrum, ilium, and ischium, which weakens the attachments of all ligaments and tendons to the decalcified areas

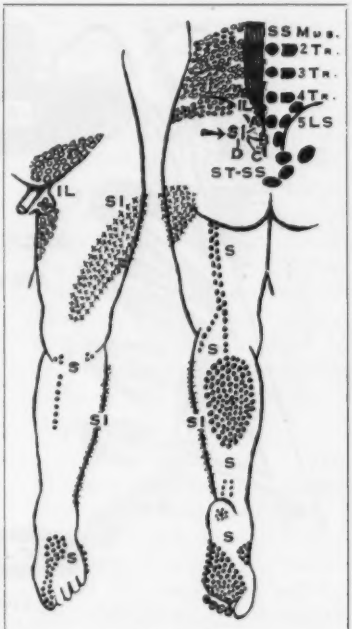


FIGURE 2

12. Meisenbach, R. O., *Surg. Gynec. & Obst.*, 12:411-434,1911.
13. Livingston, W. K., Pain Mechanism, Macmillan, New York, 1943.
14. Drucker, W. R., et al., *Am. J. Surg.*, 97: 454,1959.
15. Watson-Jones, R., & Roberts, R. E., *Brit. J. Surg.*, 21:461-499,1934.
16. De Takats, G., *Arch. Surg.*, 34:939,1937.
17. Baer, W. S., *Bull. Johns Hopkins Hosp.*, 28:159-163,1917.
18. Hackett, G. S., *Ohio M.J.*, 49:877,1953.

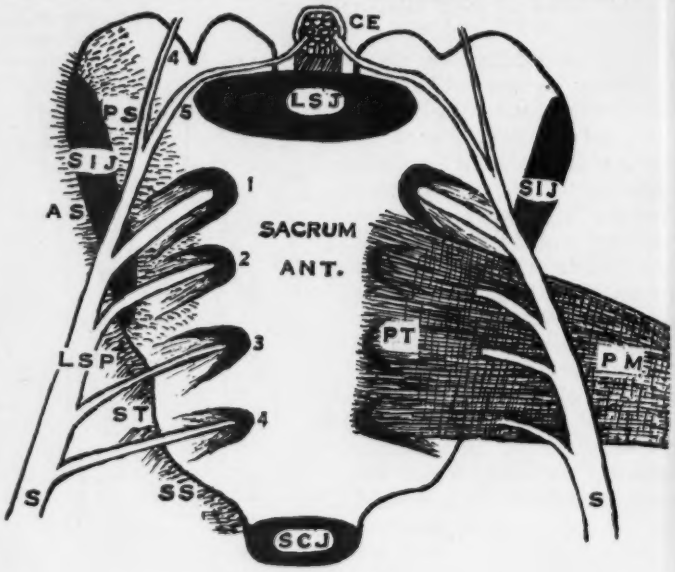


FIGURE 3

of bone. [10,11] Those relaxed ligaments and tendons which are of special importance in contributing to sciatica are the sacrotuberous (ST), sacrospinous (SS) and anterior sacroiliac ligaments, and the tendons of the piriformis muscle,[1,5,19-24] for they become additional sources of noxious bombardments of afferent and antidromic impulses which are transmitted into the sciatic nerve components.

Sciatica

The piriformis tendons are attached to the bodies of the 1,2,3,4 segments of the sacrum (Figure 3), to the grooves of the 2,3,4 sacral foramina, and to the anterior sacroiliac (capsular) ligament (AS), the lower portion of the posterior sacroiliac ligament (PS), and the sacrotuberous (ST) and sacrospinous (SS)

19. Yocman, W., *Lancet*, 11:119,1926.
20. Freiberg, A. H., & Vinke, T. H., *J. Bone & Joint Surg.*, 16:126-136,1934.
21. Freiberg, A. H., *Ohio M.J.*, 1934.
22. Ross, J. P., *St. Bart. Hosp. Rept.*, 65:103-108,1932.
23. Hackett, G. S., *Arch. Surg.*, 73:878,1956.
24. Hackett, G. S., *J.A.M.A.*, 165:183-185,1957.

ligaments. The 4,5 lumbar and 1 sacral nerves (lumbosacral plexus (LSP)) cross the anterior sacroiliac ligament (AS)[25,26] and join the 2,3,4 sacral nerves as they emerge with congenital variations through the piriformis tendons (PT) and muscle (PM)[20,23,27-30] to form the sciatic nerve (S). A continuous fibrous sheath envelops and is attached to the piriformis muscle and tendons; the 2,3,4 sacral nerves, the 4,5 lumbar and 1 sacral nerves of the lumbosacral plexus, and sciatic nerve; and the anterior sacroiliac, sacrotuberous, sacrospinous, and lower margin of the posterior sacroiliac ligaments.

Noxious bombardments of sensory nerve impulses from within the relaxed ligament/tendon attachments to bone cause pain and inflammation[19,31] within the encapsulated tissues (nerve, muscle, tendon, ligament, blood and lymph vessels, fibrous tissue). Inflammation increases their sensitivity and extends into the sciatic nerve trunk to account for its tenderness.[11,24,31] Spasm of the piriformis muscle is a contributing factor.[20]

Noxious bombardments of antidromic impulses not only disturb local neurovascular metabolism, but may extend throughout sciatic nerve distribution[2,31] and cause early decalcification as revealed by x-ray. This weakens the ligaments and tendons in the lower extremity, causing instability and additional pain and decalcification.[10] Impaired function of the sciatic nerve inhibits reflexes and causes muscle dystrophy.

Sciatic pain (Figure 2, S) that has been identified as a complication of relaxed sacroiliac (SI-A,B,C,D) and sacroischial (ST, SS) ligaments that normally stabilize the sacroiliac joint has been described by the patient as deep in the posterior thigh and popliteal space, gripping pain deep in the calf, at one or both sides of the Achilles tendon, and like a hot coal or a sharp tack beneath the heel. It may feel like a pressure beneath the instep, and from the outer side of the foot, it may cross underneath the metatarsal arch and into the 2,3, 4,5 toes. Anteriorly it may burn on either side of the upper tibia or feel like a piercing nail. It may extend medial to the upper tibia. It often involves the top of the arch of the foot and extends into the great toe. When severe, any

25. Hilton, J., Rest and Pain, Second Edition, Wm. Wood & Co., New York, 1879.
26. Goldthwaite, J. E., & Osgood, R. B., *Boston Med. & Surg. J.*, 62:593-654,1905.
27. Grant, J. C., Bioleau, A Method of Anatomy, Third Edition, Williams & Wilkins, Baltimore, 1944.
28. Bonica, J. J., The Management of Pain, Lea & Febiger, Philadelphia, 1953.
29. Jackson, C. M. (Editor), Morris' Human Anatomy, Fifth Edition, Blakiston's Son & Co., Philadelphia, 1914.
30. Lewin, P., Backache and Sciatic Neuritis, Lea & Febiger, Philadelphia, 1943.
31. Chapman, L. F., et al., *Arch. Neurol.*, 1: 557-572,1959.

of the pain areas in the thigh, leg or beneath the heel may be tender, but not tender distal to the ankle.

Tendon relaxation of the three gluteii by decalcification of the ilium and sacrum is a frequent painful complication of severe sacroiliac ligament relaxation.[10] A referred pain from the gluteus minimus has been identified on the outer side of the leg and foot just posterior to the ankle joint.

Lumbosacral Joint Ligament Instability

This condition is found in the proportion of two to three in sacroiliac joint instability.[1,32] It consists chiefly of relaxation of the interspinous ligament (Figure 2, 5LS)[1,33] and the iliolumbar ligament (IL). When severe, there is accompanying relaxation of the articular capsular ligaments, the upper part of the posterior sacroiliac ligament (SI-A,B) and the tendons of the sacrospinalis muscle (SS Mus) at their attachments to the 1,2,3 sacral segments and the transverse processes of the lumbar vertebrae (TR). The ligament/tendon relaxations may extend to the lower dorsal vertebrae with trigger-point tenderness, and with referred pain laterally.

Relaxation of the iliolumbar ligament (IL) is an excellent example of the result of noxious stimulation originating within the attachments of one relaxed ligament. A referred somatome appears in the upper gluteal muscles from the attachment to the transverse process of the fifth lumbar vertebra. From the ilial attachment there is a dermatome in the groin and upper medial thigh (IL), pain and tenderness in the testicle or vagina, a dysfunction of the large intestine manifested by gas pains, constipation, or diarrhea, urgency to void, and there may be decalcification of the vertebrae and ilium.

Referred pain from the interspinous ligament has not been identified. It must be relaxed to permit abnormal strain on the articular capsular ligaments, abnormal movement of one vertebra upon another, or abnormal pressure on an intervertebral disc.

Since relaxed articular capsular ligaments have been identified with noxious stimulation of cervical, dorsal, and lumbar spinal nerves[1,10] (radiculitis), it would be a logical hypothesis that bombarding impulses from relaxed 4,5 lumbar articular capsular ligaments and attached relaxed tendons would cause pain, inflammation, antidromic dystrophy, and dysfunction in the 4,5

32. Steindler, A., & Luck J. V., *J.A.M.A.*, 110: 106-113,1938.
33. Kohler, R., *Acta Radiologica*, 52:21-27,1959.

lumbar spinal nerves which adjoin them and are enclosed in the same sheath of fibrous tissue. This would account for some sciatic pain accompanying lumbosacral disability.

Severe lumbosacral ligament relaxation is frequently accompanied by relaxation of the upper portion of the posterior sacroiliac ligament (SI-A,B) because of the synchronizing forward rotation of the ilium on the sacrum in the sacroiliac joint, along with flexion of the lumbar spine.[1,34]

Symptoms and Diagnosis

The chief symptoms of sacroiliac ligament relaxation complicated with sciatica are local pain, referred pain, and sciatic pain. The sciatic pain has usually been preceded by recurrent attacks of sacroiliac ligament pain. The pains are aggravated by activity and by traction when the disability is severe. The perception and intensity of pain varies with the pain threshold of the patient. In severe cases the ankle reflex may be diminished or absent, and the circumference of the leg and thigh may be reduced as much as one inch.

There is trigger point tenderness of the attachments of the posterior sacroiliac ligament (Figure 2, SI-A.B.C.D) and the sacrotuberous and sacrospinous (ST,SS) ligaments, and there may be referred pain (SI) to the outer anterior thigh and outside of the leg. Referred pain areas are constant for specific ligaments.

Trigger point tenderness of the upper portion of the posterior sacroiliac (SI-A,B), the lumbosacral interspinous (5-LS), and the iliolumbar (IL) ligaments are best elicited with the patient standing erect and relaxed, while the lower portion of the sacro-

34. Francis, C. C., The Human Pelvis, Mosby, St. Louis, 1952.

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iliac (SI-C,D), sacrotuberous and sacrospinous (ST-SS) ligaments are best elicited while the patient reclines relaxed on the abdomen.[1]

Trigger-point tenderness beneath the buttock in the sciatic notch at the lower margin of the sacroiliac joint (SI-D) is due to relaxation of the posterior sacroiliac, sacrotuberous, and sacrospinous ligaments. It is present before sciatica develops and becomes accentuated with inflammation involving the piriformis muscle[10,21,24] and sciatic nerve.

Trigger-point tenderness of the sciatic nerve is best obtained while the patient lies prone with the knee flexed to a right angle and the foot supported by the examiner's left hand. The right thumb is rolled over the median and outer branches of the sciatic nerve in the popliteal space and compared with the opposite side. Pain on straight leg raising in sciatica, in severe sacroiliac relaxation, and other conditions reduces its value in differential diagnosis.

X-rays do not reveal ligament relaxation per se, but decalcification in the area of clinical pain and tenderness is evidence of ligament and tendon relaxation in the area.

The earliest x-ray evidence of decalcification from sacroiliac ligament relaxation may appear in three or four weeks[7,10,35,36] and is observed in the ischial tuberosity by fading of the major trabeculae and pitting or mottling of the bone margin. It is verified by trigger-point tenderness of the medial aspect of the tuberosity by pressure with the thumb or with one finger in the vagina or rectum, and the pain is reproduced by needling.

It has been found[33] that in pathologic cases a contrast medium injected bilaterally adjacent the lumbar interspinous ligaments penetrates into the ligament through defects.

The diagnosis of ligament and tendon relaxation is confirmed by intraligamentous needling with a local anesthetic solution. This will produce intense trigger point pain, which disappears within two minutes as anesthesia takes place.

Treatment

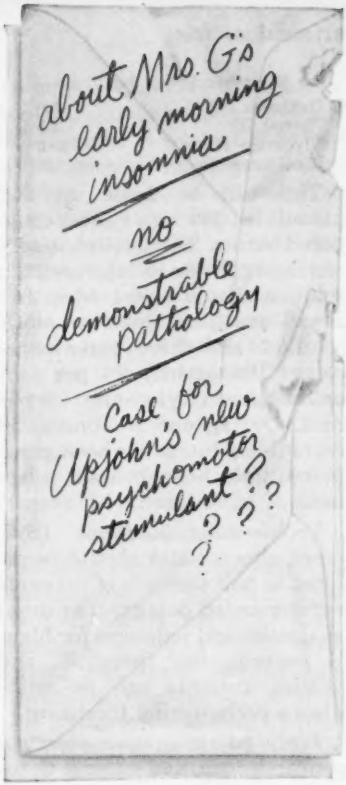
When sciatica is a complication of posterior sacroiliac ligament relaxation, the treatment consists of strengthening the fibro-osseous attachments of the posterior sacroiliac, sacrospinous, and sacrotuberous ligaments to bone by prolotherapy[1,23,36,37] (a method of rehabilitation effected by inducing proliferation

35. De Lorimier, A. A., *Bull. Hosp. Joint Dis.*, 12:22-37,1951.
36. Compere, E. L., & Kernahan, W. T., *Med. Clin. North America*, 42:299-307,1958.
37. Hvid, N., *Ugesk. laeger*, 121:619-622,1959.

of new bone and fibrous tissue cells). It permanently stabilizes the sacroiliac joint and eliminates all pain, including sciatica. Other complications, such as ligament/tendon relaxation of the lumbosacral, hip, and coccygeal joints, the sacrospinalis and gluteal muscles, and sometimes the sacrotuberous attachment to the medial aspect of the ischium, are also treated.

Technique consists in using a 22-gauge Luerlock needle of sufficient length to contact bone. This needle is attached to a 10 cc. syringe containing the proliferant combined with a local anesthetic solution. After inserting the needle to contact bone within the fibro-osseous attachment, five drops are injected, the needle then partly withdrawn and redirected against bone. Usually three to eight injections are made during one insertion of the needle, depending on the size of the area. Treatments may be given in office, but severe cases are treated in hospital. New bone and fibrous tissue develop over some four weeks, and the patient returns for report and reexamination in one month. Additional treatments are given when indicated.

A dextrose proliferating solution which gives adequate fibro-osseous proliferation with a minimum of discomfort can be made up by any pharmacist.



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This can be made up and placed in 100 cc. rubber-stoppered bottles. The solution is self-sterilizing. Prior to injection, the solution should be mixed as follows: one part dextrose stock solution, and three parts tetracaine (Pontocaine) 0.1 per cent or lidocaine (Xylocaine) 1.0 per cent. During one treatment, 50 cc. of this solution has been given in multiple bone contact injections of ⅓ cc. each (4-5 drops).

Proliferating solutions (Sylnasol, zinc sulfate) should be diluted to half strength of previous recommended dosage.[1] The usual analgesics and sedatives for highly nervous, low threshold, and sciatica patients can be withdrawn early during treatment.

Early administration of estrogen, androgen, and vitamin C, together with thyroid, 1 to 2 grains daily, appears to accelerate the formation of bone matrix[38,39] and to give the patient a feeling of well-being.

Any support that gives relief is beneficial in preventing bombardments of neural impulses. The Brooks-Hackett sacroiliac belt is diagnostic by immediately relieving strain (pain) on sacroiliac ligaments, but is ineffective in other lowback disability, and in sciatica from other causes. It is used following acute strain and following treatment to support the ligaments while they are gaining strength. A raised heel prevents full knee extension and traction on the weakened attachment of biceps tendon fibers to the decalcified ischial tuberosity.[21]

Activities that induce pain are prohibited; pain is the alarm signal of the noxious stimulation of impulses that inhibit normal metabolic rehabilitation and induce decalcification. Traction which induces pain and increases ligament relaxation should be avoided.

Comment

It is impossible to dissociate ligament relaxation and decalcification, for either one may precede and induce the other. Decalcification weakens the attachments of ligament and tendon to bone a few weeks before it can be recognized by x-ray. Weak ligament and tendon attachments probably account for much of the pain associated with osteoporosis of the spine and pelvis.

Animal experiments over a six-year period revealed new bone proliferation.[40] Intraligamentous injections of whole blood stimulated bone and fi-

38. Albright, F., *Rec. Prog. Horm.*, 1:293-353, 1957.
39. Ibarra, J. D., *Texas M.J.*, 52:20,1956.
40. Hackett, G. S., *Mil. Med.*, 126:517-525,1961.

brous tissue one-fourth as effectively as a sclerosing agent.* It probably has the same effect clinically in the repair of torn ligament/tendon fibers when not disturbed by too much activity. Blood serum, saline, anesthetic solutions, and iron tonics were ineffective. The injection of steroids combined with proliferants inhibited the proliferation of any new bone and fibrous tissue for three weeks, followed by a diminished proliferative effect. The intraligamentous injection of steroids is inadvisable either in acute or prolonged disability when it interferes with the inflammatory process of healing.

The number of patients with ligament relaxation treated in the past 21 years is 1857; of these, 1583 had sacroiliac ligament relaxation. Ages ranged from 15 to 88 years. Duration of disability was three months to 65 years. Patients had consulted as many as 30 physicians over the country and abroad.

With experience and with the encountering of more serious cases, lumbosacral disability and sacroiliac complications (decalcification, sciatica), these become easily recognized. Of 412 consecutive cases of sacroiliac ligament relaxation during the past three years, 312 (78 per cent) were complicated by sacroischial (tuberous, spinous) ligament relaxation. These cases were classified as cases of sciatica or potential sciatica, the diagnosis depending on pain distribution (popliteal, calf, foot). Among them were some 80 patients with obvious sciatica. Many had undergone spine operations, and ligament disability continued; 82 per cent were treated by prolotherapy to their satisfaction. There were no unfavorable sequelae. Failures may be attributed to improper diagnosis, activity, insufficient treatment, and co-existing disabilities.

*Sylnasol,® G. D. Searle & Co., Chicago, Illinois.

Summary

Sciatica occurs frequently as a complication of sacroiliac ligament relaxation (incompetency). Barrages of sensory and antidromic impulses induced by traction-stimulation on non-stretchable sensory nerve fibrils within the fibro-osseous attachment of weak sacroiliac ligament fibers are the cause of pain and neurovascular dystrophy (decalcification) of the sacrum and ilium. The decalcification weakens the attachments of the sacrotuberous and sacrospinous ligaments and the tendons of the piriformis muscle, so that they become the origin of additional barrages of impulses that overwhelm the sciatic nerve components resulting in the production of pain, inflammation, dystrophy, and dys-

function. It is a vicious circle of ligament relaxation and decalcification in which either may induce the other.

The diagnosis of ligament relaxation is by trigger-point tenderness. It is invariably confirmed by intraligamentous needling with a local anesthetic solution.

Treatment by prolotherapy permanently strengthens the ligament attachments with new bone and fibrous-tissue cells, stabilizes the sacroiliac joint, and eliminates the pain, including sciatica.◀

Early Diagnosis of Glaucoma

The disease is insidious, progressive and irreversibly damaging to the visual organ, causing 10 to 15% of all blindness and an even larger percentage of lesser visual disability. The figure of 2 to 2½% is quoted from surveys in different parts of the world as the incidence of chronic simple glaucoma in the population over the age of 40 years. Early diagnosis of the disease, probably the only means by which irreversible changes of the optic nerve head and visual field can be prevented, should therefore be the aim of general practitioners, ophthalmologists, and optometrists. The disease should be suspected whenever there is a family history of glaucoma, premature onset of presbyopia, a history of frequent change of spectacles, elevated intraocular pressure on a routine examination, or ocular discomfort, grittiness and possibly headache, particularly on waking in the morning, and in all patients over the age of 40.

An important source of error in relying on an isolated tonometric reading lies in the fact that the intraocular pressure shows diurnal variations. In untreated eyes with chronic simple glaucoma, only 6% show phasic variation of intraocular pressure of less than 5 mm. Hg; some have swings of intraocular pressure of more than 25 mm. in 24 hours. In 60% of eyes the intraocular pressure is maximal during the usual non-office hours and in only 40% is the peak value reached during office hours.

Routine use of the Schiotz tonometer in people past 40 years will bring to light very early cases of glaucoma and will save many eyes. A raised intraocular pressure almost always means glaucoma. A normal reading does not exclude glaucoma.

Drance, S. M., *Canad. M.A.J.*, 84:224-225,1961

original article

Diagnosis of Bronchogenic Carcinoma

JOHN FRANCIS BRIGGS, M.D., F.C.C.P., F.A.C.P

►*Although x-ray film does not cast a shadow of the tumor itself but rather of the associated bronchial obstruction, preliminary diagnosis is most often by this method. Ultimate diagnosis depends upon finding malignant cells in the sputum, in material obtained by bronchoscopy, or in biopsy material.*◄

Whether the increased incidence of bronchogenic carcinoma in the last few years is actual or only apparent, it is now the commonest form of malignant growth in man. It may occur at any age but becomes increasingly frequent in advancing years and is far more common in men than in women. Its development apparently has no relationship to climatic conditions, economic or social levels, geographic location, or occupation (except in a few instances, e.g., cobalt mining). The relationship of cigarette smoking to this disease is still unsettled.

No single pathognomonic sign or symptom, no single physical finding will announce the presence of bronchogenic carcinoma. The tumor, which may be histologically classified as squamous-cell, adenocarcinoma, undifferentiated, round-cell, or, rarely, an alveolar-cell form of carcinoma, will produce varying degrees of obstruction within the bronchus; signs and symptoms are dependent upon the degree of obstruction.

Symptoms may be modified by the presence of emphysema or atelectasis and complicated by infection. The disease may present in any form varying from unilateral asthma to a lung abscess; it may appear in any portion of the lung, including the periphery. This power of mimicry permits the disease to reach a far advanced stage before it is recognized by the clinician.

Diagnosis by X-Ray

There is no pathognomonic x-ray sign or shadow to assist the roentgenologist, yet the diagnosis is most often made by the study of chest x-ray films. Findings vary, depending upon the pathology associated with the

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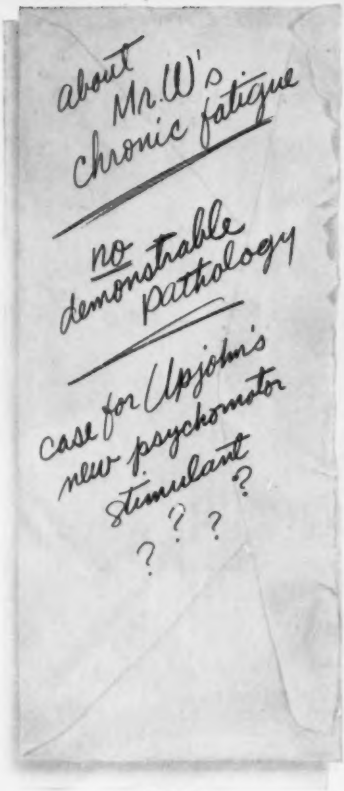
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bronchial obstruction, from consolidation to pleural effusion, from a solitary nodule to pneumonia. The x-ray film will cast the shadow, not of the carcinoma itself, but of bronchial obstruction with its associated phenomena. To further confuse, the carcinoma may be associated with generalized emphysema, bronchitis, fungus infections of the lung, or tuberculosis. The diagnosis is made by constantly suspecting that any intrapulmonary lesion could be a bronchogenic carcinoma. Elaborate radiographic work is not necessary in the instance of coin lesions, since diagnosis is made only by biopsy.

When a chest x-ray film suggesting this tumor is obtained, it is essential that consultation with the radiologist be held to determine the nature of the shadow cast. The burden of proof of establishing the diagnosis of an atypical pneumonia or virus pneumonia, or an unresolved pneumonia, rests with the clinician. In most instances an unresolved pneumonia simply means an unresolved diagnosis. These three conditions in particular commonly masquerade as bronchogenic carcinoma.

Malignant Cells

The ultimate diagnosis depends upon finding malignant cells in the sputum, if the pa-



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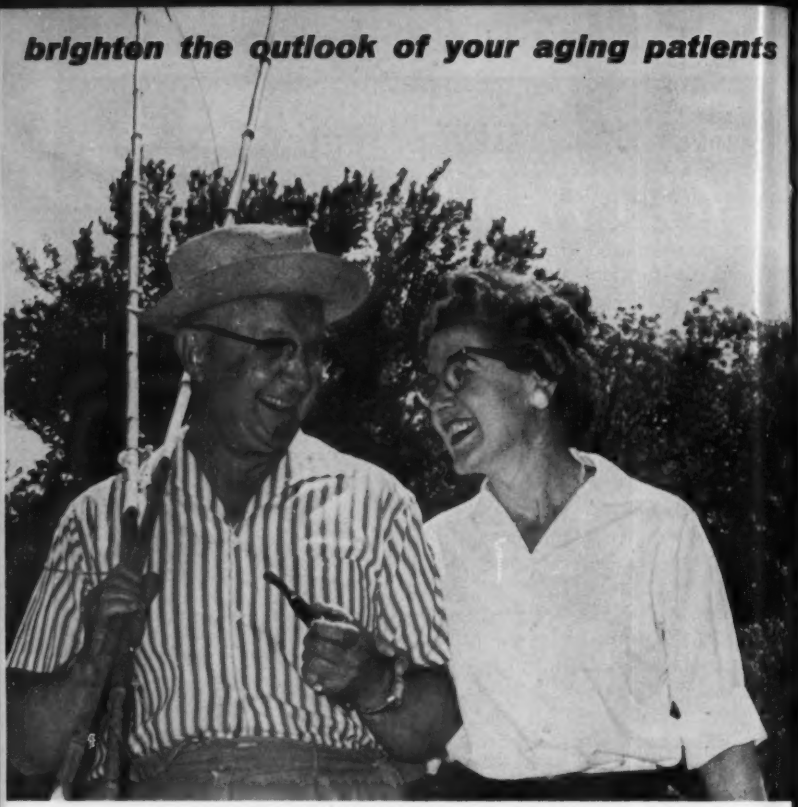
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tient is raising bronchial material. The cells may be obtained by bronchoscopy, or through a biopsy of the lesion, or by aspiration of the material from the occluded bronchus. If regional nodes are present, these may be removed in an effort to find the tumor tissue. A scalene node biopsy may prove of value. The presence of a pleural effusion necessitates the exclusion of tuberculosis. The removed fluid should be examined for the presence of malignant cells.

If, after a reasonable time (three weeks), diagnosis has not been established and all other methods have failed to demonstrate malignant cells, an exploratory thoracotomy should be done. It is my feeling that a lump in the lung, like a lump in the breast, should be diagnosed by surgical excision and study of its cell structure.◀

Endocrine Eye Lesion in Hyperthyroidism

Lid retraction and disturbance of ocular motility with its symptoms were manifested at some time in 73% of 165 patients with hyperthyroidism. The symptoms were lacrimation, pain, pressure, burning, diplopia, and decreased visual acuity. The eye symptoms in 106 patients improved promptly after treatment with I^{131} but were temporarily aggravated in 14 who did not complete the therapy and 7 who had already become euthyroid. In 91.8% of the patients the endocrine signs improved or disappeared, while ocular protrusion remained the same or increased.

Hamilton, H. E., et al., *Arch. Int. Med.*, 105: 675-685,1960.



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Thyroid Nodules and Thyroid Cancer

JOHN B. DAVIS, M.D., *Omaha, Nebraska*

►*Early surgical treatment is essential in patients with carcinoma of the thyroid. In non-toxic multinodular goiters, a near-total thyroidectomy, preserving the posterior capsule and parathyroid glands, should be the minimum initial treatment. Death is usually due to recurrence with local extension.*◄

Ten per cent of non-toxic nodular goiters are malignant. Eight per cent of people operated upon for chronic thyroiditis (Hashimoto's disease) have associated carcinoma of the thyroid gland.[1] Even the most benign form of thyroid cancer, i.e., papillary adenocarcinoma, is lethal.

There are no early diagnostic signs or symptoms of thyroid carcinoma other than a nodule in a normally functioning gland; therefore, all non-toxic nodular goiters should be suspected of being carcinoma. All non-toxic nodules of the thyroid should be surgically removed for histologic diagnosis, just as in the case of a breast tumor.

1. Fowler, E. F., *Arch. Surg.*, 81:733-740,1960.

Characteristics of Thyroid Cancer

Total organ studies of the thyroid gland containing carcinoma show a high incidence (30 per cent) of multicentric foci of the carcinoma.[2,3] Neck dissections in clinically cancer-free tissues on patients with thyroid cancer have demonstrated a high incidence (61 per cent) of cervical lymph node metastases.[4]

Thyroid carcinomas readily metastasize to the paratracheal nodes bilaterally and to nodes in the anterior superior mediastinum.

Death from thyroid cancer is nearly always due to recurrence with local extension in the neck. Radioactive iodine (I^{131}) has been ineffective in the treatment of adults with carcinoma of the thyroid. Frozen sections done on thyroid nodules are often inconclusive. Cases of poorly differentiated thyroid cancer which are

2. Clark, R. L., Jr., et al., *Ann. Surg.*, 149: 858-866,1959.
3. Jay, J. B., et al., *Am. J. Surg.*, 95:45,1958.
4. Frazell, E. L., et al., *Cancer*, 8:1164-1166, 1955.

operated on have about a 15 per cent five-year survival rate.

Rational Treatment

From the foregoing statements it is obvious that vigorous early surgical treatment is essential in patients with carcinoma of the thyroid. In non-toxic multinodular goiters, a near-total thyroidectomy, preserving the posterior capsule and parathyroid glands, should be the minimum initial treatment. In the non-toxic thyroid with a single nodule, the entire lobe containing the nodule should be removed along with the isthmus and the anterior half of the contralateral lobe. Frozen sections should be obtained in both instances. If carcinoma is definitely diagnosed by frozen section, the remaining thyroid tissue should be removed (preserving the parathyroids), and a bilateral paratracheal node, and an anterior superior mediastinal node and a radical cervical node dissection on the involved side carried out.

If frozen section studies are inconclusive or negative for cancer, nothing more should be done. If permanent sections later prove there is carcinoma, the surgeon is left with one of two choices:

1. Re-operate, removing the remainder of the thyroid and carrying out the lymph node resection previously mentioned.

2. Follow the patient closely until clinical signs of recurrence or local metastases occur, and then perform surgery.

In the latter instance the surgeon is not performing a complete operation for cancer early in its course, but it can be justified under this set of circumstances for three reasons:

1. It is technically difficult to re-operate at this time, which increases the hazard of recurrent laryngeal nerve injury.

2. The surgeon will have to reenter a field potentially contaminated with tumor cells and will increase the chance of local implantation.

3. In most cases of thyroid cancer the metastases remain confined to the neck and can still be cured.

Conclusion

The treatment of undiagnosed thyroid nodules with thyroid or any other medical regimen is unjustified and, in the 10 per cent with carcinoma, it is fatal.◀

The Rectal Shelf

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►*The pararectal mass or rectal shelf found in the recto-uterine or recto-vesical space during a routine digital examination often indicates the presence of a lesion remote from the rectum. Patients may consult the physician because of symptoms referable to the rectum or to the primary lesion.*◄

The term "rectal shelf" properly designates a condition in which a palpable mass impinges on or attaches to the anterior rectal wall, forming a ledge or shelf. "Extrarectal mass" or "pararectal mass" describes masses outside the rectum.

Characteristics

A careful digital examination of the rectum may disclose a mass in the recto-uterine or recto-vesical space that can be palpated through the anterior or antero-lateral wall of the rectum. The pararectal growth may vary from the size of a lemon to that of a grapefruit and may displace the rectum posteriorly or laterally. An increase in the size of the pararectal mass may cause impingement on and attachment to the anterior rectal wall, in which case the examining finger will encounter a mass resembling a ledge or shelf-like projection. The pararectal mass or rectal shelf may cause narrowing of the lumen by posterior displacement of the anterior wall, or of both the anterior and the lateral walls. A metastatic extrarectal process may occasionally encircle the rectum so as to cause partial or almost complete occlusion. This may also occur with an extensive carcinoma of the prostate gland.

The pararectal mass or rectal shelf may be palpated 5 to 10 cm. above the anus in the female and in the male from 1 to 2.5 cm. or more above the prostate gland. It is frequently higher than is thought. Usually a sulcus is palpable between the upper border of the prostate gland and the mass or shelf. When no sulcus is present, a search for a carcinoma or abscess of the prostate gland should be made.

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A proctoscopic examination usually will reveal the mucous membrane over the shelf or mass to be normal. If the mucosa appears abnormal, a specimen may be removed for microscopic examination.

Etiology

A multiplicity of conditions may result in the formation of a rectal shelf or a pararectal mass. In 1895, one investigator[1] called attention to an extrarectal mass in Douglas' pouch which he found during digital examination of the rectum in some patients with gastric carcinoma. He felt that this important aid often was neglected in differentiating between gastric ulcer and gastric carcinoma.

Kelling,[2] in 1905, stated that every patient suspected of having carcinoma of the stomach should have a digital examination of his rectum. In 1908, a case of carcinoma of the pancreas was reported[3] in which a rectal shelf was present. In this report appeared the first explanation of a malignant metastasis in the recto-uterine or recto-vesical space from upper abdominal carcinoma on the basis of gravitation of the detached malignant cells to the most dependent part of the peritoneal cavity.

In 1909, it was observed[4] that a rectal shelf did not necessarily imply the presence of a metastatic growth or an implanted malignant growth, and that it might also result from an inflammatory process which was usually incomplete and one-sided. It was pointed out that the rectal shelf was found in men just above the prostate gland, and that it usually was associated with gastric carcinoma. However, in women the cancer cells which gained access to the peritoneal cavity tended to be implanted on the ovaries, in which case ovarian metastasis resulted instead of a rectal shelf.

In 1939, 17 cases were reported[5] in which a rectal shelf was associated with the following lesions: carcinoma of the stomach, colon, pancreas, breast, common bile duct, and kidney, and retroperitoneal neurogenic sarcoma. The patients ranged in age from 37 to 70 years; 12 of the patients were men and five women; 13 were white and four were Negroes. In four the symptoms suggested a pathologic process in the distal portion of the colon. In six instances the extrarectal metastatic process was mistakenly diagnosed as a primary growth in either the rectum or the prostate gland. In none of the 17

1. Strauss, H., cited by Buie, L. A., et al., *J.A.M.A.*, 117:167-169,1941.
2. Kelling, G., cited by Smith, T. E., *Dallas M.J.*, Feb., 1942.
3. Schnitzler, J., cited by Bacon, H., *J.A.M.A.*, 112:808-814,1939.
4. Blumer, G., cited by Buie, L. A., et al., *J.A.M.A.*, 117:167-169,1941.
5. Bacon, H., *J.A.M.A.*, 112:808-814,1939.

cases was the mucosa of the rectum ulcerated or fixed.

In 1941, 254 cases were reported[6] in which an extrarectal mass was found. In this report the malignant lesions associated with the extrarectal masses were carcinoma of the stomach, pancreas, breast, sigmoid flexure, right colon, ovary, cervix, uteri, recto-vaginal septum, prostate gland, or seminal vesicle; giant-cell bone tumor, lymphosarcoma, sarcoma of the recto-vesical septum, epithelioma of the bladder, retroperitoneal sarcoma, and generalized abdominal carcinomatosis.

The inflammatory or benign lesions with which extrarectal masses were associated included diverticulitis, regional ileitis, ovarian dermoid cyst, ovarian cyst, endometriosis, adenomyosis, pelvic inflammatory disease, hydrosalpinx, recto-vesical fistula, prostatic hypertrophy, prostatic abscess, tumors subsequent to injection treatment for hemorrhoids, uterine retroversion, ruptured appendix, and perforated peptic ulcer.

In the present study 138 (54.3 per cent) of the patients with a pararectal mass or rectal shelf were women and 116 (45.7 per cent) were men. The most common causes of extrarectal masses among women were lesions of the genital system, among men lesions of the gastrointestinal tract. Symptoms referable to the rectum and colon were present in 135 (53.1 per cent) of the patients. An erroneous diagnosis of carcinoma of the rectum had been made in four of the patients prior to the correct diagnosis.

6. Buie, L. A., *J.A.M.A.*, 117:167-169,1941.

Case Report

A white man of 50 had anaplastic adenocarcinoma of the pancreas with extensive metastasis to the pelvis, retroperitoneal lymph nodes, liver, esophagus, and pericardium. Eleven days before the patient's death a hard mass was found above the prostate gland, which impinged against the anterior wall of the rectum and involved it secondarily, forming a typical rectal shelf. A small, hard nodule was palpated in the subcutaneous tissue of the right chest in the posterior axillary line over the ninth rib, and removed by biopsy. It was reported as an anaplastic adenocarcinoma.

A sigmoidoscopic examination for 24 cm. was accomplished with difficulty, due to the displacement of the anterior rectal wall by the extrinsic mass. Approximately 9 cm. above the anus the mucous membrane was thrown into folds. No evidence of ulceration or of growth in the mucous membrane was found.

A postmortem examination showed that there was considerable neoplastic tissue in the pelvis which formed a firm mass in the rectovesical space and infiltrated the walls of the rectum and bladder. Microscopic examination of sections of the metastatic neoplastic tissue showed adenocarcinoma similar to that in the primary lesion.

It must be stressed that not all pararectal masses or rectal shelves are caused by a malig-



In a series of 24 handicapped arthritics treated with dexamethasone for 8 to 16 months, ring size decreased consistently — objective evidence of antirheumatic effects which were maintained throughout the entire period of observation. Improvement was also noted in other antirheumatic indices, i. e., pain on motion, tenderness, swelling and morning stiffness.[1]

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Reference: 1. Bunim, J. J., in Hollander, J. L.: Arthritis and Allied Conditions, ed. 6, Philadelphia, Lea & Febiger, 1960, p. 364.

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nant metastatic growth. The following should be distinguished from metastatic lesions: subserosal myoma; adherent coils of small intestine and omental masses encountered in certain types of peritonitis, especially diffuse tuberculous peritonitis; carcinoma of the sigmoid flexure prolapsing into the recto-vesical or recto-uterine space; primary carcinoma occurring in the upper pole of the prostate gland or in the posterior bladder wall, and infiltrating the rectal wall secondarily, loculated pelvic-rectal abscess; endometriosis occurring in the recto-vaginal septum or in the distal part of the sigmoid flexure of the colon; extension of a primary carcinoma of the ovary, uterus, or cervix; dermoid cyst occurring in the ovaries; chronic inspissated or partially encapsulated pelvic abscess; fibromyoma of the uterus; diverticulitis of the colon; regional ileitis; hydrosalpinx; prostatic abscess; chemical tumors; retroperitoneal tumors; and primary carcinoma of the rectum.

Extension of Process

There has been much conjecture concerning how the metastatic lesion reaches the recto-uterine or recto-vesical space to form the shelf or pararectal mass. It is usually agreed that malignant tissue will disseminate by direct extension or by tumor cell emboli; in the case of sarcoma dissemination may be via the blood stream. It is also generally agreed that carcinomatous implants occur in the abdomen, especially in advanced cases.

The rapidly growing epidermoid and glandular carcinomas may disseminate chiefly by lymphatic embolism, while the slowly growing and recurrent tumors often extend by contiguous permeation.[7] Retrograde flow through lymphatic channels and the blood stream has always been considered a possibility. Some authors have maintained that the pelvic growths were the result of carcinomatous emboli and were blood-borne. The phenomenon of a rectal shelf or pararectal mass occurring in cases of carcinoma of the breast has been explained[8] on the basis of transcelomic spread, with secondary deposits arising from gravitation of carcinoma fragments into the pelvis. The formation of a rectal shelf or a pararectal mass in the presence of an inflammatory process is generally explained by direct extension of the infection into the extrarectal tissues with impingement on the rectal wall.

Aids in Diagnosis

The presence of a rectal shelf

7. Abrahamson, R. H., & Hinton, J. W., *Surg. Gynec. & Obst.*, 71:135-141,1940.
8. Ewing, J., Neoplastic Diseases, W. B. Saunders Co., Philadelphia, 1919. P. 77.

or a pararectal mass modifies a prognosis unfavorably and makes a careful and complete investigation mandatory. A careful digital examination should be made to determine the location, size, shape, and consistency of the mass; whether the mass is tender, movable, or fixed; and whether the overlying mucosa is normal. If the rectal wall and mucosa are involved secondarily, it may be possible to obtain a biopsy to ensure accurate diagnosis. A thorough examination of the genitourinary organs in the female and of the gastrointestinal tract in the man may assist in arriving at the correct diagnosis. Inspection and palpation of the breasts and the abdomen, and roentgenologic studies of the stomach and colon are other essential aids.◀

Tobacco Amblyopia

Two distinct classes of trouble stem from the harmful effects of tobacco:

1. A series of sudden blackouts, probably caused by constricting spasm of some of the cerebral vessels.

2. The atrophic type, in which a slow breakdown of the part of the retina from which the papillomacular fibers originate takes place. It is very common among women smokers, with dull headache and asthenopia on close work appearing first, then definite premature presbyopia.

If these cases progress, little by little a central scotoma for red and green (rarely blue) develops, gradually increasing in density until all perception of central red and green is gone. The scotoma is oval, extends from the fixation point out to the blind spot, rarely invades the rest of the color field. By this time, central visual acuity is slipping, and the portion of the optic nerve filled by the papillomacular bundle begins to have a dull, lifeless look. The lower temporal quadrant is involved, and before long the patient will be industrially blind. If such a person will stop smoking, recovery is gratifying, usually taking 2 to 3 months. Advanced cases are found among long-time smokers, the cigar being the worst offender although the cigarette is by no means innocent.

Hedges, H. S., *Virginia M. Month.*, 87:144-145, 1960.

Clinical Evaluation of a Long-Acting Form of Vitamin B_{12}

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►*Vitamin B_{12} in a long-acting repository form gave good or excellent results in 91 of 100 patients treated. Those with diseases in which vitamin B_{12} has become accepted treatment required 1/4 to 1/8 as many injections when treated with the long-acting preparation. Several new indications were determined.*◄

An alteration in vitamin B_{12} metabolism may play an important role in the genesis of diabetic retinopathy, trigeminal neuralgia, psoriasis, and other diseases.[1-3] The serum B_{12} level in the body is low in many patients because it is not adequately absorbed from the gastrointestinal tract.[4,5] This alone does not explain why other patients have many symptoms clear when vitamin B_{12} is given in repository form. A logical explanation for their response is that the serum vitamin B_{12} level is maintained by a definite mechanism or dam (most likely in the kidney). This mechanism or dam may also be under a local-remote controller. When either one or both are "out of order," the serum B_{12} level will gradually drop to a subtherapeutic level. In some respects this mechanism could resemble the one which controls the excretion of glucose from the body.

When parenteral vitamin B_{12} is given in aqueous or saline solution, a high percentage of it can be recovered from the urine within 16 hours.[6] Thus, unless these solutions are given daily, the serum level of the vitamin returns to its previous level before the body organs have had an opportunity to absorb, store, and utilize but a small quantity of the material.

The purpose of this study is to evaluate the use of a slowly ad-

1. Chow, B. F., *Modern Med.*, 21:195,1953.
2. Alexander, E., Jr., & Davis, C. H., Jr., *North Carolina M.J.*, 14:206-207,1953.
3. Musman, D. J., *Postgrad. Med.*, 17:85-92, 1955.
4. Boger, W. P., et al., *Am. J. Clin. Nutrition*, 8:864-871,1960.
5. Goldsmith, G. A., et al., *Am. J. Gastroenterol.*, 32:453-466,1959.
6. Thompson, R. E., & Hecht, R. A., *Am. J. Clin. Nutrition*, 7:311,1959.

TABLE 1

RESULTS OF TREATMENT WITH *DEPINAR* IN 100 PATIENTS

GROUP	NO. OF PATIENTS	RESULTS			
		EXCELLENT	GOOD	FAIR	NO CHANGE
Acute	12	11	1	0	0
Subacute	21	15	5	1	0
Chronic	67	19	40	7	1
TOTAL	100	45	46	8	1

sorbed and excreted B_{12} preparation designed for parenteral administration.* Excellent results obtained in a short term study[7] justified extension of this work to a long term investigation of its clinical activity and indications. Earlier studies have shown that patients receive continuous benefits for from two to four weeks with a single injection, this time interval varying with different individuals.[4]

Material and Methods

Symptoms suggestive of vitamin B_{12} deficiency in 100 patients aged 13 to 82 (44 males and 56 females) were treated. Acute conditions included trifacial neuralgia, neuritis, Bell's palsy, and mild depression. Subacute conditions included neuralgias, Parkinsonian tremor, sciatica, herpes zoster, and Ménière's syndrome. Chronic conditions treated included anemias (macrocytic and pernicious), psychoneuroses, neurodermatitis, general debility, neuritis, neuralgias, and mental fogginess.

The average dose of the long-acting vitamin B_{12} preparation was 500 mcg. (1 cc.) intramuscularly every four weeks. Patients who had no absorption of B_{12} from the gastrointestinal tract and patients who had permanent low serum B_{12} levels will require vitamin B_{12} parenterally for long periods, probably for life. Patients with partial absorption of B_{12} from the gastrointestinal tract and patients who showed only a mild lowering of serum B_{12} level require only intermittent series of treatments. The interval of time between injections varies widely with individuals, patients in this series requiring treatments every 12 to 35 days.

Results

Results have been classified as excellent, good, or fair, consideration being given to the duration

*Depinar®, Armour Pharmaceutical Company, Kankakee, Illinois.

7. Kimble, H. E., *Southwestern Med.*, 40:767-769,1959.

of improvement (Table 1).

Patients with diseases in which vitamin B_{12} has become the accepted treatment required ¼ to ½ as many injections when treated with conventional solutions of B_{12}. Patients with diseases in which short-acting B_{12} preparations had failed to produce results responded unusually well to the long-acting repository preparation. Remission of symptoms was noted in many cases which had never responded to ordinary preparations.

Since it is difficult to determine when symptoms are due to a deficiency of vitamin B_{12} without serum level determinations, a "feeler" dose of the drug was given to a number of patients who complained of vague symptoms for which no apparent organic lesion could be found. In many cases, remission of symptoms was seen in conditions in which vitamin B_{12} had not previously been considered to be of value.

Good results were obtained in patients whose symptoms are usually regarded as signs of old age, e.g., arteriosclerosis, hypertension, diabetes, menopause, and cirrhosis of the liver. Some complained of only one symptom, e.g., foggy memory, short lapses of memory, inability to concentrate, and loss of pep. Others had many combinations of symptoms. In some, these were due to a specific organic disease but in others were due only to a lack of vitamin B_{12} in the body. Whenever the body is starved for vitamin B_{12} every organ becomes sluggish in its capacity to perform its specialized duties. The brain, for example, may store more B_{12} than any other organ (with the possible exception of heart muscle[5]) and may not be able to carry on its many functions with any degree of efficiency when the supply of B_{12} is low. An accountant who realized that his mental processes were slowing down was able to do his work as well as ever after two doses of the long-acting vitamin. Subsequent doses every fifth week were required to keep his mental acuity in top condition.

Good results were also evident in some of the patients who complained of foggy memory, were senile, and who had suffered a cerebral accident or a brain concussion. These patients showed a return to normal memory after receiving the vitamin periodically. This could not be expected in patients whose symptoms were due to permanent degenerative organic lesions. It was not unusual to see older patients who had become confined to an armchair or bed become ambulatory and carry on many useful duties after receiving the long-acting compound. Patients given the drug pre- and postoperatively

had their postoperative disability time shortened.

The agent has been used in a limited number of patients who were operated upon and found to have malignant tumors with metastases. These also fell into a definite time pattern regarding their need for administration of B_{12}. These patients retained their vitality month after month. One who has been under observation for three years now requires 500 mcg. of the vitamin every three weeks.

Summary and Conclusions

The symptoms and diseases found in vitamin B_{12}-starved individuals are sometimes precipitated by poor adsorption of vitamin B_{12} from the gastrointestinal tract, and at other times are caused by perpetually low serum B_{12} brought on by defective elimination control of B_{12} from the body, or a combination of these.

A long-acting, repository form of B_{12} (Depinar) is superior to conventional aqueous solutions in the treatment of B_{12} deficiencies, since ¼ to ⅛ as many injections produce a greater therapeutic benefit. Conditions recalcitrant or unresponsive to conventional B_{12} therapy may respond significantly to the repository form. The therapeutic activity of this drug is so broad and extensive that it cannot be predicted how far its limits will extend.◀

Prednisolone Aerosol in Dermatology

Prednisolone (Meti-Derm) aerosol, with or without neomycin, was administered to 134 patients with various dermatoses. This aerosol contains 50 mg. prednisolone in isopropyl myristate with propellant to a total of 150 Gm. A similar aerosol contains, in addition, 50 mg. neomycin sulfate. Spraying the affected area for three seconds at a distance of six inches delivers 0.5 mg. of prednisolone, or 0.5 mg. of prednisolone and 0.5 mg. of neomycin. In many patients, paired comparisons were made between the aerosols and creams or ointments containing similar active constituents. In most indications, the antipruritic and anti-inflammatory effect of the aerosol was equal or superior to the prednisolone creams or ointments employed. The aerosol has the advantage of being easier to apply to creviced or hirsute areas. Manual application to inflamed or suppurative areas is avoided, and the cooling and drying effects are usually desirable.

Fanburg, S. I., *J.M. Soc. New Jersey*, 57:74-77, 1960.

Anti-Neurotic Agent in Office Practice

EDWIN DUNLOP, M.D.,* *South Attleboro, Massachusetts*

►*Relief of anxiety and acute panic states, obsessive-compulsive reactions, reactive depressions, agitated depressions, and phobic states in 160 patients was excellent. The drug controlled many neurologic complications associated with phenothiazine therapy and produced few side effects of its own.*◄

The current era of psychopharmacology, with its continuing search for new, safer, more effective and specific drugs, has brought two major advances: the phenothiazine tranquilizers which have been constantly improved, and the antidepressants which have had a rapid and dramatic acceptance. However, the major component of most psychiatric illnesses, anxiety (as manifested by tension or phobias), has not been effectively relieved by these new drugs. With the introduction of chlordiazepoxide†, it appears that a specific treatment for all forms of anxiety and tension is available.

Complete pharmacologic and physiologic tests and controlled clinical trials comprising circulation time, blood pressure, cardiac action, neurocytotropic activity, effect on hepatic and hemopoietic function and blood chemistry were performed in the year prior to this psychiatric evaluation. Side effects were few, mild, or non-existent. Acute and chronic toxicity studies have shown that the drug has a wide margin of safety.

Results

Gratifying results have been obtained in anxiety and acute panic states, obsessive-compulsive reactions, ambulatory schizophrenics, reactive depressions, agitated depressions and phobic states in 160 cases in this series. Immediately impressive were the specific calming qualities of this medication, accompanied by a sense of well being, without agitation or overstimulation. Improvement was usually perceptible in hours, yet at no

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†*Librium*®, Roche Laboratories, Nutley, New Jersey.

time did chlordiazepoxide produce the soporific effect of the meprobamates or any disturbing extrapyramidal side effects.

Many patients had been exposed for years to the continuous parade of psychopharmaceuticals and were essentially hopeful of their possible benefits. When chlordiazepoxide was substituted they knew they were experiencing a different reaction. Within a matter of days, there generally was a complete freedom from former fears; patients previously suffering from crowd phobias enjoyed normal social activities again, and those who had been unable to tolerate certain emotional stresses found their endurance back to normal. Improved interpersonal relationships and performance were frequently reported by attendants, friends, and family, and expressions of marked appreciation for the medication became almost routine. The patients had not previously experienced such immediate relief of symptoms and amelioration of abnormal behavior.

Although the drug has been used mainly to relieve the target symptoms of anxiety, apprehension, and fear, it also has been administered concomitantly with energizers and found to be well tolerated by patients who showed agitated depressions, hypomanic states, and acute schizophrenic reactions with evidence of psychomotor agitation. No other medication, in my experience, has produced such improvement in willingness to cooperate, and acceptable behavior patterns were easily recreated.

Dosage and Administration

Considerable latitude in dosage is permissible. Some of the more agitated patients, especially the schizophrenics, could tolerate 200 mg. a day without showing drowsiness, lightheadedness or ataxia, whereas the average patient responded well to 40 mg. a day (one 10 mg. capsule four times daily).

The intravenous mode of administration was utilized in 10 patients in acute panic: results were about equal to those produced by amobarbital, but without the incoordination and drowsiness associated with this drug in therapeutic doses. There was no dystonia or dyskinesia, i.e., neither retrocollis, torticollis, facial grimacing and distortions, dysarthria, or involuntary muscle spasm accompanied by gagging and oculogyric crisis.

In the treatment of the acute alcoholic chlordiazepoxide has been most effective when given intravenously in the amount of 50 to 100 milligrams, and equally effective when given intramuscularly. Within a matter of min-

utes, tremor and agitation will disappear followed by a restful period during which time the patient generally sleeps.

In the moderately to markedly inebriated patient, this is repeated again in two or three hours if indicated, and the parenteral route of administration is continued until oral medication in appropriate doses may be substituted. The treatment of acute alcoholism and the withdrawal state has been greatly enhanced by this method and deserves further exploration.

Side Effects

Continuous systolic blood pressures in patients taking chlordiazepoxide orally or by injection were recorded on the Winston Blood Pressure Follower. Following intravenous injections of 200 mg., the pressures showed changes of less than 5 mm. during a 20-minute period, thus ruling out hypotension as a side effect.

Side effects were extremely rare. The only one of significance was a feeling of sedation experienced by a patient who took 100 mg. orally during the first 24 hours, with exaggeration of normal emotional responses to minimal empathetic stimuli. Within 48 hours this behavior pattern changed and the patient was able to tolerate all stimuli without adverse response, and acquired notable control and a feeling of relief for the first time in many years.

At no time were any signs of depression or addiction noted either during medication or at withdrawal. Patients were easy to manage during adjustment to their correct dosage requirements; psychotherapy was facilitated as never before, and in direct contrast to other drugs used for similar indications, chlordiazepoxide did not seem to isolate the patient from his surroundings by permitting him to orbit in chemical isolation.

The low incidence of side effects makes it eminently superior for treating the hypersensitive type of patient who ordinarily over-reacts to both stimulation and sedation and is prone to discontinue medication because of dizziness, tiredness, or tension. It was used in both hospital and ambulatory patients and met wide acceptance with the office patients who comprise such a large percentage of the emotionally sick population.

Controlling Side Effects of Other Tranquilizers

Although this medication is not claimed to have strong anticonvulsant effects, it has been used in combination with anticonvulsant medication in epileptics with neurotic anxiety.

One of the most interesting properties of this drug has been its ability to control the many neurologic complications of phenothiazine drugs, as described in dystonia and dyskinesia. These side effects which are increasing with the increase of use of phenothiazines, are often misdiagnosed as chorea, schizophrenia, hysteria, even meningitis. Chlordiazepoxide, 25 mg. three times daily, controls these neurotoxic manifestations in a very short time, while permitting the phenothiazine drug to be continued without reducing the dosage.

Conclusion

Librium is so different from tranquilizers and psychosedatives that it should not be classed with these drugs. As the name implies, it is truly a liberator, perhaps the first to offer such complete freedom from fear and at the same time to establish emotional equilibrium without undue stimulation or sedation. This should prove to be a highly respected and widely administered medication with a gratifying and predictable response but without adverse reaction or complication so common in phenothiazine tranquilizers.

At no time was either a euphoriant sensation or depressive state induced by the medication. Chlordiazepoxide is the most effective medication available for relieving the multiple expressions of anxiety so prevalent in neuropsychiatric illness. There appears to be no other drug in its class. It is not an anorexiant, and gain in appetite and weight was additional evidence of its therapeutic effectiveness.

The range of its usefulness in psychiatric conditions is wide, with effectiveness in controlling anxiety, fears, tension, agitation, psychomotor activity, and obsessive compulsive behavior having been demonstrated. Librium produces a sense of well-being, the patient responding with increasing awareness of improvement and a degree of *sans souci* beyond that which the tranquilizers have been able to accomplish.◀

Local Anesthesia with Mepivacaine Hydrochloride in Dermatologic Surgery

LEWIS W. KIRKMAN, M.D., *Salt Lake City, Utah*

►*Mepivacaine, in dosages of 1 to 20 cc. of 1 or 2 per cent solution, provided good local anesthesia in each of 428 patients requiring surgery for various skin lesions. Onset of anesthesia occurred within a few minutes and no supplemental injections were required. No serious reactions were observed.*◄

Biopsy procedures and the removal by excision or electrodesiccation and curettage of cutaneous and subcutaneous lesions are important functions of the dermatologist. A reliable and safe local anesthetic agent for office use is a necessity. Mepivacaine HCl* was used to produce local anesthesia in over 400 patients requiring minor dermatologic surgery. Its use has been characterized by rapid onset, complete and prolonged anesthesia, no systemic and few local reactions, and no postoperative pain.

Mepivacaine has been used for caudal, pudendal and epidural blocks; nerve blocks (brachial plexus, stellate ganglion and lumbar sympathetic); and for infiltration anesthesia.[1-7] Onset of anesthesia was immediate or occurred within a few minutes. Intensity of anesthesia and spreading power of mepivacaine are the same or better than lidocaine.[1,3,4] Anesthesia lasts longer with mepivacaine than with lidocaine.[1,3,4,7] Few side effects (nausea, vomiting, drowsiness) have been reported and these have been mild.[3,4,7] Tissue compatibility is excellent and no irritation or tissue damage has occurred.[4,6]

Method and Materials

In 428 patients requiring sur-

*Carbocaine®, Winthrop Laboratories, New York, New York.

1. Dam, W., & Guldmann, N., *Acta anaesth. scandinav.*, 1:101,1957.
2. Dhunér, K. G., et al., *Acta chir. scandinav.*, 112:350,1957.
3. Erickson, J. C. III, & Hricko, M. J., *Guthrie Clin. Bull.*, 29:45,1959.
4. Gordon, R. A., et al., *Canad. Anaesth. Soc. J.*, 7:290,1960.
5. Stout, R. J., *Brit. J. Anaesth.*, 29:495,1957.
6. Lichtman, A. L., General office and emergency use of a new local anesthetic, mepivacaine. Submitted for publication.
7. Sadove, M. S., *New Physician*, 9:39,1960.

gery for various skin lesions, mepivacaine was used for local anesthesia. For most procedures, anesthesia was induced by local infiltration of the lesion and the skin in the immediate vicinity. A field block was employed to remove sebaceous cysts, some epitheliomas, and benign tumors. Removal of warts on the extremities, incision of paronychia and excision of ingrown toenails, nail beds, and nail roots were accomplished after digital nerve block.

Both 1 and 2 per cent solutions were used initially; the latter was found more suitable for dermatologic surgery. Anesthesia lasts longer with the 2 per cent solution and there is no difference between the two strengths in terms of local discomfort (stinging) after injection. A vasoconstrictor was never needed even when highly vascular regions, e.g., the scalp, were anesthetized. An injection of 0.5 to 2 cc. was usually sufficient. As much as 20 cc. of 2 per cent and 20 cc. of 1 per cent mepivacaine have been given by local infiltration to the same patient for removal of two epitheliomas by electrodesiccation. Supplemental injections have not been necessary; anesthesia has always been adequate to complete surgery. Onset occurs immediately or within minutes after injection.

Table 1 summarizes the amount of mepivacaine given and the anesthetic procedure used for each type of skin lesion. The figures represent the number of patients, not the number of skin lesions or procedures. For example, some patients had up to 40 warts which required injections at different sites. Senile keratoses were usually multiple. One patient had 20 keratoses on his back and 30 on the anterior chest; these were destroyed on two separate occasions.

Epitheliomas of the face were commonly removed from more than one site and each area was infiltrated separately.

Warts

Warts on the face, lips, scalp, and extremities in 168 patients were destroyed by electrodesiccation and curettage. Local infiltration of mepivacaine provided anesthesia for removal of multiple warts and those of the face and trunk. Warts on the fingers, toes, and in the periungual and subungual areas were removed after a digital nerve block. One cc. of 2 per cent mepivacaine was injected for each nerve.

Epitheliomas

Basal-cell and squamous-cell epitheliomas of the nose, ears, forehead, lip, neck, face, trunk and extremities were excised in

TABLE 1

USE OF *CARBOCAINE* IN 428 PATIENTS

SKIN LESION	NO. OF PATIENTS	AMOUNT OF CARBOCAINE	TYPE OF ANESTHESIA
Warts	168	1-2 cc. 2%	Local infiltration or nerve block.
Epitheliomas	68	3-20 cc. 1% or 2%	Local infiltration or field block.
Senile keratoses	69	1-2 cc. 2%	Local infiltration.
Nevi	51	1-2 cc. 2%	Local infiltration.
Sebaceous cysts	23	1-2 cc. 2%	Field block.
Benign tumors	21	1-20 cc. 2%	Local infiltration or field block.
Biopsy	14	0.5-2 cc. 2%	Local infiltration.
Nailfold, nailbed, nailroot	8	1 cc. 2% (each nerve)	Nerve block.
Leukoplakia	4	1-2 cc. 2%	Local infiltration.
Paronychia	2	1 cc. 2% (each nerve)	Nerve block.

68 patients. Biopsies were performed at an earlier time or immediately before excision. Mepivacaine was usually infiltrated around the lesion, but in several instances a field block was employed. From 3 to 20 cc. of 1 or 2 per cent solution was required.

SENILE KERATOSES

Senile keratoses of the forehead, face, hands, trunk and arms, single or multiple, were removed by curettage, cautery and/or electrodesiccation. For each lesion, 1 to 2 cc. 2 per cent mepivacaine was infiltrated into the lesion and surrounding tissue.

NEVI

Multiple or single nevi on the scalp, ear, trunk, face, neck, and extremities were excised after local infiltration with 1 to 2 cc. 2 per cent solution.

SEBACEOUS CYSTS

Cysts on the forehead, neck and behind the ears were excised from 23 patients. One to 2 cc. 2 per cent mepivacaine was used to anesthetize the site of the cyst and the tissue surrounding the lesion.

BENIGN TUMORS

Twenty patients had benign tumors — fibroepithelial papillomas, dermatofibromas, foreign body granulomas, and chondrodermatitis nodularis chronica helicis—were excised from 20 patients, after local infiltration or field block with 1 to 20 cc. of 2 per cent mepivacaine.

BIOPSY

Skin biopsy was performed in

14 patients for diagnostic purposes only. This group does not include biopsies in which epitheliomas were confirmed. Local infiltration with 0.5 to 2 cc. 2 per cent mepivacaine provided adequate anesthesia.

Nails

Nails were avulsed in eight patients, 2 cc. 2 per cent mepivacaine being used to block the digital nerves.

Leukoplakia

Leukoplakia of the lip or buccal mucosa was removed by curettage and cautery in four patients. One to 2 cc. of 2 per cent solution was infiltrated into the area.

Paronychia

A digital nerve block using 1 cc. 2 per cent solution for each nerve was given before incision and drainage of paronychia in two patients.

Typical Case Reports

Case 1

A man of 55 had multiple basal-cell carcinomas on the trunk and shoulders. Two years ago a field block with 30 cc. of 2 per cent procaine HCl was made to remove a large carcinoma from his left shoulder. Anesthesia was unsatisfactory even when supplemented with 1 per cent lidocaine. When the patient recently required surgery to remove two large basal-cell carcinomas from the right shoulder and mid-back, local infiltration of 20 cc. 2 per cent mepivacaine to each site gave excellent results. Anesthesia began one minute after injection, was complete and lasted 2 hours and 30 minutes. Unlike other local anesthetics, mepivacaine caused no postoperative pain in this patient. He did state that he could taste the anesthetic.

Case 2

Two foreign body granuloma nodules were removed from the left pretibial region in a man of 30, 10 cc. 2 per cent mepivacaine being infiltrated locally. Anesthesia was immediate and complete and lasted for over an hour. Other similar lesions had previously been removed after infiltration with 2 per cent procaine, which did not give adequate anesthesia. This patient has never had good anesthesia with any dental anesthetic tried.

My own experience with mepivacaine was highly satisfactory. A large senile keratosis on my arm was destroyed by curettage and cauterization. Anesthesia was immediate and prolonged and there was no postoperative discomfort.

Side Effects

There were no serious reactions to mepivacaine. A few patients complained of stinging and burning during injection. The absence of postoperative discomfort was striking.

Summary

Mepivacaine provided good anesthesia in each of the 428 patients in this series. It more fully satisfied the criteria of an ideal local anesthetic than any other agent used to date. The cases described are representative of dermatologic procedures performed in an office practice that require local anesthesia.◀

Evaluation of Topical Vitamin Preparation in Selected Dermatoses

LOUIS WEXLER, M.D.,* *New York, New York*

►*Vitamins A, D_2, E, and d-panthenol in a vanishing cream base were administered topically in treatment of various keratotic and vesicular dermatoses. Fair to excellent results were obtained in 90.3 per cent of those with keratotic dermatoses and in 54.5 per cent of those with vesicular dermatoses.*◄

Topical medicaments penetrate the skin by the hair follicles, sebaceous and sweat glands.[1,2] The inuncted material passes through the follicle opening, along the hair and root sheaths and is absorbed through the thin, non-keratinized cells at the base of the follicle. Pathologic lesions or openings in the skin accompanied by abrasive removal of the epidermal layers, further facilitate the penetration of medicaments directly into the subcutaneous tissues and the circulation.

*From Beekman Downtown Hospital and Fordham Hospital, New York, New York.

1. Hadgraft, J. W., & Somers, G. F., *J. Pharm.*, 8:625-634,1956.
2. Gemmell, D. H., & Morrison, J. C., *J. Pharm.*, 9:651-656,1957.

The normal healthy skin behaves like a membrane with an outer negative charge precluding permeation of electrolytes generally, and of anions particularly. The intact skin allows the passage of lipoid-soluble drugs in their undissociated form, while restricting the entry of the dissociated form.[2] Maximum percutaneous absorption occurs when the medicament combines lipoid solubility with a moderate solubility in water. The vehicle used does not itself promote absorption if the medicament is insoluble, but facilitates its contact with the absorbing cells. The substances that are known to be absorbed through the skin are oil-soluble, among them, vitamins A and D. Practically all the vitamins have been employed orally for various skin conditions. Success has attended the use of fat-soluble vitamins and panthenol when they were applied directly to the lesions.

Dermatoses characteristic of

vitamin A deficiency begin with dryness, roughening, and itching. When vitamin A in sesame oil was applied directly to the epidermis, a thickening of the deeper layers of the skin resulted with a resultant decrease in keratin formation.[3,4] Local application is about 1/7 as effective as oral administration, when measured by the criterion of growth promotion in vitamin A-deficient animals, normal skin being more efficient than vitamin A-deficient skin.[5,6]

Whether administered systemically or locally, investigators[7] have observed that the vitamin A was useful in combating certain skin disorders characterized by dryness, scaliness, and roughness. The decreased rate of keratin formation was apparently entirely local, the untreated skin areas showing no significant alterations.[4]

On the basis of experiments with tissue cultures the hypothesis has been advanced that restoration of the skin is induced by vitamin A when the basal cells, deficient in the vitamin, are exposed to it for even so short a time as a half hour.[6,8] It was also found that, in combination with vitamin A, vitamin E increases the storage of vitamin A, when both are topically applied. (The difference between corn oil and cottonseed oil as a vehicle may be due to vitamin E in corn oil.)

The effectiveness of topical use of vitamin E in the treatment of diabetic vulvovaginitis[9] and anorectal strictures,[10] when the medication was supplied in a suppository, has been reported. In these patients redness, swelling, and congestion were reduced and itching was alleviated.

Cod liver oil ointment has been used clinically with considerable effectiveness as a dressing for burns,[11] wounds, abscesses, and similar conditions to promote healing.[12]

Topical application of panthenol has been effective in a variety of skin disorders, including hypostatic eczema, arteriosclerotic ulceration, dermatitis venenata, varicose eczema, and in several other types of cutaneous lesions which did not respond to other treatment.[13,14]

Based on the reported effectiveness of topical application of

3. Studer, A., & Frey, J. R., *Schweiz. med. Wschnschr.*, 79:382,1949.
4. Sabella, J. D., et al., *Proc. Soc. Exper. Biol. & Med.*, 76:499,1951.
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6. Sobel, A. E., *Arch. Dermat.*, 73:388-394, 1956.
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9. Ant, M., *Am. J. Obst. & Gynec.*, 67:407-410,1954.
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11. Callahan, G. B., *Illinois M.J.*, 82:368,1942.
12. Osol, A., & Farrar, G. E., Jr., (editors), The Dispensatory of the United States of America, 25th Edition, Lippincott, Philadelphia, 1955. Pp. 347,1965.
13. Kline, P. R., & Caldwell, A., *New York J. Med.*, 52:1141-1143,1952.
14. Combes, F. C., & Zuckerman, R., *J. Invest. Dermat.*, 16:379-381,1951.

TABLE 1

CHARACTERISTICS OF GROUP I (KERATOTIC)

No.	Diagnosis	Age Range (yrs.)	Avg. Age (yrs.)	Treatment (avg. weeks)	Observation (avg. interval)
16	Keratosis pilaris	5-31	12	14	3 weeks
8	Icthyosis	8-41	19	18	3 weeks
9	Atrophic senile and weatherbeaten skin	45-79	53	12	3 weeks
11	Pruritus senilis	58-81	64	4	2 weeks
7	Xerosis	18-42	25	8	2 weeks
4	Xerosis in atopic dermatitis	12-29	17	9	2 weeks
17	Diaper rash	4wks.-3½	1	3	Weekly

CHARACTERISTICS OF GROUP II (VESICULAR)

	Housewife's eczema				
6	acute, vesicular	24-49	34	1	4 days
3	scaly, dry, fissured	31-54	39	3	Weekly
7	Winter eczema	17-43	26	4	Weekly
16	Chafed skin, chapped	15-59	29	3	Weekly
4	Intertrigo	19-66	43	2	Weekly
8	Cheilitis	12-56	22	4	Weekly
10	Sunburn	5-22	11	1	2 days
12	Miliaria	20-56	30	1	3 days

the individual vitamins, the preparation containing these vitamins in a vanishing cream base was administered to a group of patients with selected dermatoses.

Material and Methods

A total of 138 patients (60 men and 78 women) comprised the study. Based on diagnosis the patients fitted into two groups:

1. Those with disorders of the xerotic (keratosis) type of dermatitis, exemplified by ichthyosis.

2. Those presenting the acute vesicular lesions, exemplified by miliaria. Seventy-two patients were classified in the former and 66 in the latter diagnostic group

*Tashan®, Hoffmann-La Roche Inc., Nutley, New Jersey. Each gram contains d-panthenol, 50 mg.; vitamin A, 10,000 U.S.P. units; vitamin D_2, 1,000 U.S.P. units; and vitamin E, 5 mg.

TABLE 2

GROUP I, RESULTS OF *TASHAN* THERAPY IN KERATOTIC DERMATOSES

No.	Diagnosis	Excellent	Good	Fair	Equivocal	Poor
16	Keratosis pilaris	1	9	6	0	0
8	Ichthyosis	0	4	4	0	0
9	Atrophic, senile and weatherbeaten skin	2	4	3	0	0
11	Pruritus senilis	3	2	3	1	2
7	Xerosis	1	4	1	1	0
4	Xerosis in atopic dermatitis	0	2	1	1	0
17	Diaper rash	3	9	3	2	0
72	Totals	10	34	21	5	2
			61%			
			90.3%			

GROUP II, RESULTS OF *TASHAN* THERAPY IN VESICULAR DERMATOSES

6	Housewife's eczema acute, vesicular	0	0	1	2	3
3	scaly, dry, fissured	0	2	1	0	0
7	Winter eczema	1	3	2	1	0
16	Chafed skin, chapped	2	7	6	1	0
4	Intertrigo	0	0	1	2	1
8	Cheilitis	1	2	3	1	1
10	Sunburn	0	0	2	8	0
12	Miliaria	0	0	2	4	6
66	Totals	4	14	18	19	11
			27.3%			
			54.5%			

(Table 1).

A placebo was used concurrently with Tashan cream, each on a different lesion on a corresponding part of the body. For example, where the dermatosis involved the hands, the placebo was applied on one and Tashan on the other hand. No such control was possible in cheilitis, and was difficult on lesions in the groin or perineal area. Where it was not possible to keep the placebo distinct from the Tashan cream, only the latter was employed.

The patients were instructed to apply the two creams to the

affected parts, according to this method, from one to three times daily, usually twice daily, and to report back to the office. Patients were seen at intervals varying from once every two days to once every three weeks. The average duration of treatment varied from one to 18 weeks (Table 1).

Results

The results of treatment, graded as excellent, good, fair, equivocal or poor, are summarized in Table 2. In Group I, 66 of the 72 patients showed varying degrees of definite improvement. Amelioration ranging from fair to excellent occurred in 90.3 per cent of the cases, and highly satisfactory improvement was seen in 61 per cent. In Group II, 36 of the 66 improved, representing 54.5 per cent of the cases treated. However, the greatest number of improved cases were in the fair column, and only four patients (6 per cent) had excellent results.

Patient acceptance was high in nearly all the cases. They found the preparation easy to apply, soothing, non-greasy, non-staining, and pleasantly scented. No evidence of irritation or allergic sensitivity was observed.

Summary and Conclusions

A variety of dermatoses in 138 patients in two diagnostic groups (keratotic and vesicular) were treated with Tashan cream, a topical vitamin preparation in a vanishing cream base.

The cream was highly effective in the keratodermas and in those conditions where the problem was essentially one of dryness or chafing, e.g., in diaper rash. Improvement in this group occurred in 90.3 per cent of the cases.

In the acute vesicular type of housewife's eczema, intertrigo, sunburn, and miliaria there seemed to be no clinical advantage of the Tashan cream over the placebo, except for winter eczema and chafed skin, in which improvement occurred in 21 of 23 cases.

The cream was a soothing, non-staining, easily applied preparation which did not produce evidences of irritation or allergic toxicity.◀

clinical report

Epigastric Distress of Early Pregnancy and Its Management

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►*Nausea, frequent or occasional vomiting, heartburn, belching, flatulence, nervous stomach, and diarrhea were relieved in 49 of 56 pregnant patients given a combination of prochlorperazine and isopropamide. Dry mouth, drowsiness, and blurred vision where the only side effects, noted by nine women.*◄

Pregnancy usually predisposes to heartburn, belching, nausea, vomiting, and flatulence, causing physical discomfort and emotional distress, particularly during the first trimester. Reassurance that these symptoms are seldom serious provides little comfort to the distressed mother-to-be.

It is generally accepted that both physical and mental factors are involved in the epigastric distress of pregnancy. The symptoms causing distress are referred from various points in the gastrointestinal tract and result from fluctuations in metabolic and endocrine activity and from gastric motility. These physiologic changes interact as cause and effect with emotional upsets such as overreaction to the physical symptoms, apprehension about the actual childbirth, and concern about economics and living accommodations.[1]

Material and Methods

An anticholinergic agent in combination with an antiemetic-tranquilizer was studied in 56 pregnant patients, aged 18 to 40, with epigastric distress. All were in the first trimester except two who were in their fourth month; 39 (70 per cent) were multiparas. All were troubled with nausea, with frequent or occasional vomiting, and heartburn, belching, flatulence, "nervous stomach," or diarrhea.

About 80 per cent of the group said they felt unusually nervous, depressed, irritable, or apprehensive. Fifteen had aborted one or more times and so

1. Eastman, N. J., Williams Obstetrics, Appleton-Century-Crofts, Inc., N. Y., 1950 (11th edition).

were understandably apprehensive. Twelve who had several pregnancies in rapid succession were worried and depressed by the prospect of additional physical and economic burden. Four had experienced severe nausea and vomiting throughout previous pregnancies (one requiring hospitalization).

About half of the patients had previously received various medications for their physical and/or emotional symptoms, either earlier in this pregnancy or in previous pregnancies. These medications included one or more of the following: antispasmodics, sedatives, tranquilizers, antiemetics, amphetamines, and pyridoxine. No patient was included in this series who had obtained satisfactory relief from other medication.

Two had been undergoing psychiatric treatment (including electroconvulsive therapy) for psychoses shortly before conception. The rest had various domestic and financial difficulties which were complicated and intensified by the prospect of parenthood.

Examination ruled out intestinal obstruction or other physical causes of symptoms, aside from pregnancy. In addition to regular monthly office examinations, routine laboratory tests were performed on blood and urine samples at the same intervals. Eleven patients (20 per cent) had low hemoglobin levels (less than 75 per cent or 12.5 Gm./100 cc.). These patients were given iron and prenatal capsules (containing vitamins and minerals) to be taken when gastrointestinal symptoms subsided. Patients with normal hemoglobin levels did not receive prenatal capsules until the fourth month of gestation.

Each patient was given a bottle of 30 sustained release capsules,* each capsule containing 5 mg. of isopropamide and 10 mg. of prochlorperazine, and was told to take one in the morning and one at night. They were asked to telephone a few days later if they felt their symptoms were well enough controlled to stop the medication, if they felt their symptoms were worse, or if they had any other problems. All were asked to return in two weeks.

Results

Patients took the drug from one to 12 weeks (average three weeks). Thirty-three reported that their symptoms were promptly controlled and that when the drug was withdrawn after the initial two-weeks' supply, they had no recurrence of symptoms. A noteworthy re-

*Combid®, Smith Kline & French Laboratories, Philadelphia.

sponse occurred in a multipara of 31 who had been under psychiatric care for postpartum psychosis since her most recent pregnancy; she was physically normal except for leg varicosities. In addition to nausea and vomiting of five weeks' duration, she had fainting spells, showed signs of anxiety, and said she was dizzy and exhausted. A few days after taking the drug she obtained complete relief of nausea and vomiting and seemed to have less anxiety.

Sixteen patients experienced satisfactory but temporary relief that they could sustain only by continuing to take the capsules twice a day. For example, a patient who had previously required hospitalization and intravenous feedings had relief as long as she continued therapy; she required additional supplies for one week beyond the 30 capsules she was given initially. This patient reported mild dryness of the mouth, but preferred this to the very serious epigastric distress she suffered without the drug. Three patients said they had partial relief of symptoms, and the remaining four said they had no benefit at all.

When satisfactory results were obtained, they were almost always manifest within 48 to 72 hours; lack of relief within 96 hours was generally a sign that the patient would obtain little or no relief from the drug no matter how long medication was continued.

Two patients were unable to take the drug. One advised that it made her feel sicker, while the other could not keep the capsules in her stomach long enough for them to have any effect.

Seven patients reported a total of nine side effects, including dry mouth in five, drowsiness in two, and blurred vision in two. No effect of the medication on blood or urine was seen in laboratory studies.

Although it was not possible to decide how much mood improvement was due to the mild tranquilizing effect of the drug and how much was simply due to relief of distressing and embarrassing symptoms, there seemed little doubt that patients who were helped by the drug experienced an emotional "lift." This mood improvement persisted, in many patients, throughout the pregnancy, even after the drug was discontinued. In general, they were less apprehensive about the actual childbirth, about possible abortion, and about the myriad other fears of imaginative pregnant women.

Twelve of the 15 patients who had previous abortions carried to term and delivered healthy babies. The three others, however,

aborted again two to eight weeks after starting the medication. There was no reason to implicate the drug in these cases.

Summary

Fifty-six women suffering epigastric distress of early pregnancy were treated for an average of three weeks with a sustained release capsule containing prochlorperazine and isopropamide. About half of the patients had been treated unsuccessfully previously with antispasmodics, sedatives, tranquilizers, antiemetics, amphetamines, or pyridoxine.

Forty-nine obtained satisfactory symptomatic relief of epigastric and emotional distress. Seven patients reported a total of nine side effects, including dry mouth in five, drowsiness in two, and blurred vision in two.◀

Middle Ear Infection: Office Treatment

The following technique for instilling medication into the middle ear has proved effective and safe as an office procedure for patients with various types of infection, tubal deafness, tinnitus, secretory otitis media and adhesive otitis media:

1. Have patient inhale from cup or glass of normal saline to wash nose and postnasal area.

2. Apply 20% cocaine to eustachian orifice via the nose.

3. Insert whale-bone bougie into eustachian catheter so that tip passes bulbous end of catheter.

4. Dampen tip of bougie in solution containing 10% cocaine in equal parts aniline oil and glycerine.

5. With the catheter placed properly in the orifice, pass the bougie gently into and through the eustachian tube, holding it there for 10 minutes.

6. After removing the bougie, pass a 10-inch No. 90 polyethylene tube containing a snare wire guide through the catheter into the middle ear (or as near as feasible).

7. After removing wire guide, instill the desired medication from a 2-cc. syringe through a 20-gauge needle (with rounded end) inserted into the lumen of the tube.

Otrich, G. C., *Illinois M.J.*, 117:127-129,1960.

clinical report

Decrease in X-Ray Evidence of Bone Metastases in Prostatic Cancer During Use of Triparanol

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►*In three patients with prostatic cancer and x-ray evidence of bony metastases, administration of 250 mg. of triparanol daily to lower blood cholesterol resulted in relief of back pain and x-ray evidence of regression of metastases. Observations have been continued for more than one year in all the patients.*◄

As part of a general physical examination because of chronic backache, fatigue, and slight weight loss, prostatic cancer was found upon rectal examination in three patients aged 63, 65, and 66. Blood calcium, phosphorus, and alkaline phosphatase were within normal limits, the acid phosphatase increased in all three. The blood cholesterol measured 350, 367, and 361 mg./100 cc. blood, respectively. Blood was normal in two, slight anemia being present in the oldest patient. Urinary 17-ketosteroid and corticoid excretion were normal. X-rays of the lumbar spine and pelvis in all showed bony metastases.

All three of these men were very virile, libido and potentia materially above the average for their age. The matter of testicular removal was discussed with these patients but they preferred to forego this procedure. The wives desired a trial of some other method before resort to orchiectomy.

Medical Treatment

Because of the cholesterolemia in all of these men, it was decided to determine first the effect of triparanol† on their blood cholesterol. They were observed at weekly intervals for the first six weeks while on the drug, dosage being 250 mg. once daily before breakfast. Blood cholesterol determinations made at each visit

*From The Davis Clinic.

†*MER/29®*, The Wm. S. Merrell Co., Cincinnati, Ohio.

showed decreases in the youngest and the oldest man before the third week. The third showed a decrease after one week of therapy to 250 mg./100 cc. blood. This figure is the top normal in our laboratory.

Within the first week of treatment all three volunteered that pain in their backs was not as severe. No question had been asked by the examiner concerning this symptom. After six weeks, upon questioning, they all stated that they had no back pain, and all three had blood cholesterol within normal limits.

The urinary 17-ketosteroid excretion had not changed, but the corticoid excretion had decreased in all three patients. X-rays of the spine and pelvis showed a "marked healing and change in the appearance of the bony metastases." The blood acid phosphatase levels had decreased but were still higher than normal. These effects were totally unexpected and the triparanol had not been given for this effect. It was decided in discussions with the patients and their wives to defer orchidectomy and to continue with the medication.

These patients have been observed at monthly intervals for over one year. In the two younger, the acid phosphatase is normal; in the oldest it is still elevated. In all there has been a marked change in the metastatic bone involvement. In the two months prior to this report the oldest patient has had return of pain, less severe than before. There has been an increase in the blood acid phosphatase.

All three are still on 250 mg. of triparanol daily. There have not been any feminizing influences nor have there been any manifestations of nipple sensitivity or voice changes. The oldest patient has been placed on 15 mg. of stilbesterol daily in addition to the regular dose of triparanol, but after five weeks there has been no change in back pain or acid phosphatase level. The reasons why an orchiectomy should now be done have been discussed thoroughly with this patient.

Discussion

The observations made in the past 14 months were totally unexpected. In the practice of internal medicine we do not care for many patients with prostatic cancer. These observations are reported in the hope that urologic colleagues may give this medication a trial on a larger scale. The effect of triparanol before and after an orchiectomy, and whether the blood cholesterols are high or normal, are points to be considered. It is possible that this agent has estrogen-like chemical properties and

the beneficial effects witnessed may have been due to its estrogen-like action.

Summary

Three cases of prostatic cancer with bony metastases and high blood cholesterols are reported. Elevated blood cholesterols were treated with a blood cholesterol lowering agent (triparanol) before a direct attack was started on the prostatic cancer. A surprising decrease in bone pain within six weeks and early x-ray evidence of change in the bony metastases were observed during use of this drug alone. Further observations with this agent by urologists are needed to more thoroughly appraise its place in the management of similar cases of prostatic cancer.◀

Common Wart: Systemic Treatment

Oral tablets of chloroquine (Aralen) 125 and 250 mg., and hydroxychloroquine (Plaquenil) 200 mg. were administered twice daily after meals to 258 patients (180 children, 78 adults). Those under 40 pounds received 125 mg. of chloroquine daily; from 40 to 70 pounds, 250 mg. of chloroquine or 200 mg. of hydroxychloroquine; and over 70 pounds, 500 mg. of chloroquine or 400 mg. of hydroxychloroquine.

Results were classified as cured (all warts cleared) or failed (any warts remained). Cures were effected in 60% of the 168 patients with multiple common warts, 71% of 70 patients with plantar warts, and 80% of 20 patients with plane warts (verrucae plana juveniles). The average time of treatment for the patients cured was 7 weeks, with a slightly shorter average time for those taking hydroxychloroquine. There were no residual scars, although temporary hypopigmentation or depression at the site of the former wart was common.

Reactions to the medication occurred in 37 (14%) patients, and included gastrointestinal complaints, anorexia and weight loss, skin rash, visual disturbances, and white hair. The 16 patients who discontinued treatment because of side effects failed to lose their warts. Stopping the drug gave relief from all side effects except exfoliative erythroderma in 1 patient, who required systemic and topical steroids.

Murphy, J. C., & Petty, S., *Rocky Mountain M.J.*, 58:30-32,1961.



Management of Children with Cancer

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►*Until 20 years ago the principles of therapy for adult cancer patients were not generally applied to the care of infants and children. Cancer in patients under 15 was believed to be rare and prognosis given was inalterably poor. In more recent years, children have been found to tolerate adult therapy well.*◄

The incidence of cancer, which according to statistics is the second cause of death of children in the United States, is probably much higher than statistics indicate. Children have been found to tolerate radical surgical therapy surprisingly well, and to adjust well to any necessary disfigurement. In order of frequency of occurrence neoplastic disease in children may be acute and chronic leukemia, lymphoma, and Hodgkin's disease; tumors of the kidney region; tumors of the central nervous system; tetratomas; bone lesions; a miscellaneous group; rhabdomyosarcoma; fibrosarcoma, and tumors of the eye; the Letterer-Siwe group; and unclassified lesions. The first three classifications constitute 60 to 75 per cent of all neoplastic diseases in children.

Most investigators have found that half those with leukemia survive for an average of 12 months; only four months for those who are not treated. An important aspect of this therapy is that, while in remission, the child can live a fairly normal life. The common symptoms are fatigue, fever, adenopathy, pallor, upper respiratory infection, bone and joint pain.

Therapeutic Agents

Therapeutic means include adrenal hormones and antimetabolites. Experimental agents include microbiologic filtrates, analogues of purine antagonists and of pyrimidines, and an alkylating agent. Chemotherapy includes use of folic acid antagonists, and, when the patient has become resistant, the purine analogues.

Eventually resistance to each kind of agent develops. Adrenal hormones are used for the acutely ill and bleeding patient and for one resistant to the antimetabolites. Some 70 per cent of leukemic children respond to the adrenal corticoids; these are not to be given as maintenance therapy because serious side effects are caused and resistance develops. Uric acid may be produced so rapidly that adequate excretion is not possible. For prevention, hydration and initiation of therapy at a low dosage level, later dosage to the usual level, are the measures used.

A folic acid antagonist (Methotrexate) may be the first agent for the patient not acutely ill. One-third will respond for five to eight months. Maintenance dosage is 2.5 mg. daily. Usually, the first sign of toxicity is ulceration of the buccal mucosa. This requires temporary discontinuance. When the patient no longer responds, 6-mercaptopurine is tried, the usual dosage 2.5 mg./kg. daily. Half the patients will have remission averaging four months.

Some leukemic patients develop symptoms which resemble those of aseptic meningitis. The patient may be in remission at the time. These patients are treated by intrathecal administration of the folic acid antagonist, 0.25 mg./kg. every third day, or 0.5 mg./kg. every fifth day. One dose is given after the white cell count of the cerebral spinal fluid is again normal. Usually, three doses are given, but as many as eight have been administered. For those who do not respond favorably, presumably because of deep-seated lesions, preferred therapy is local irradiation over the skull.

Surgery

The patient's age should not be a deterrent to the use of radical surgical procedures, and size of neoplasm is not necessarily related to resectability. Preoperative preparation of children requires special attention to the blood volume level, because many are hypovolemic.

Every solid, semi-solid or semicystic mass in an infant or child should be regarded as a malignant tumor until its exact nature is determined by microscopic examination of the removed tumor. In Wilms' tumor, the most common presenting symptom is a large abdominal mass. Although 50 per cent of such masses in children are renal in origin, the majority are not cancers. A diagnosis of Wilms' tumor should never be assumed without x-ray examination, which should include an intravenous pyelogram. Wilms' tumor should be removed without delay, even though the patient



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is an infant. The prognosis for the few under one year is much better than for those who are older. The majority are between the ages of three and four at the time the tumor is detected. Occasionally, a Wilms' tumor will rupture and cause symptoms similar to those of appendicitis or ruptured spleen.

Neuroblastoma is usually found in the retroperitoneum, but also occurs with some frequency as a dumbbell-shaped mass in the intrathoracic area. This tumor and Wilms' tumor sometimes constitute a problem in preoperative differentiation, but, at operation, neuroblastoma can usually be identified by its fleshy appearance. In this cancer in infants with liver metastases instances of spontaneous regression have been recorded, but very rarely. If at all feasible, the tumor should be removed.

A sacrococcygeal teratoma may contain diffuse calcium which is visible on x-ray films of the soft tissue mass. At operation, the lower part of the sacrum should always be transected. Teratomas occur in other areas. Removal can usually be successfully accomplished.

Of sarcoma botryoides, complete exenteration as early as possible is the only therapy which affords any chance of cure. The tumor is so rare that the need for exenteration has only recently been realized. Consequently, less than a dozen long-term survivors have been reported.

Soft Tissue Sarcomas

A mass or lump in the soft somatic tissues is as significant as a lump in the breast. Such a tumor, if it persists longer than a month, may well be cancerous. At one hospital, 62 per cent of the pediatric cancer patients had sarcomatous tumors. Patients with soft tissue sarcoma constituted 10 per cent of pediatric admissions; in general admissions, the incidence of patients with soft tissue sarcoma was only two per cent. In 51 pediatric patients at this hospital, the head and neck area was the site in 11, the lower extremities in 11, the upper extremities in 13, the trunk in 10, a buttock in one, the vagina in two, the coccygeal area in two, and the retroperitoneal in one.

Death is usually caused by metastases. The patient must, therefore, be treated adequately, usually by radical excision of the primary tumor, and by chemotherapy or irradiation of metastatic disease.

In only 29 of the 51 patients had sufficient time elapsed for determination of 5-year survival rate; 14 of these patients had survived for that period of time. Many of them had low-grade fibrosarcomas.

Radiotherapy

Radiotherapy is used for children with many types of malignant disease. Distribution of lesions in 250 such patients who were treated in a period of two years included 26 with Wilms' tumor, 25 with neuroblastoma, 28 with bone tumors, 13 with soft tissue sarcoma, 89 with leukemia, 29 with lymphoma and allied disease, 29 with tumors of the central nervous system, and 11 with miscellaneous disease. The specific use of radiation varies with the kind of disease. Some tumors which are not considered to be radiosensitive in adults responded in children.

As with surgical therapy, radiotherapy should be unhesitatingly used to prolong life, every possible precaution being taken to prevent secondary irradiation changes and deformities. The treatment can cause disturbance of underlying bone structure. An x-ray film may be made with the patient in position for treatment as a way of directing irradiation so as to prevent injury to normal tissues.◀

Cancer Bull., 13:50-53,1961.

Orbital Sepsis in Newborn: Proptosis as First Sign

In 3 infants, infection in the deep orbital tissues caused proptosis before any signs of local inflammation developed. Weight gains had been unsatisfactory in 2, but in none was anything thought to be wrong before proptosis was noticed. Surgical exploration led to correct diagnosis in one, leucocytosis and equivocal x-ray findings having already provided grounds for antibiotic therapy. In the others, diagnosis rested on course of the illness and good response to antibiotic treatment.

None of the infants had signs of sinus infection, and none had any predisposing lesion such as conjunctivitis or rhinitis. Osteitis was present as part of the widespread sepsis in the basal skull region in one, having probably arisen from a staphylococcal pneumonia. This may provide a clue to the course of events in the other cases. The fact that newborn babies may not react acutely to staphylococcal invasion, preserving their normal behavior as a state of septicemia is developing, has been reported. Thus, the other 2 cases may have been in a phase of generalized staphylococcal invasion, which localized either as an osteitis in the region of the sphenoidal fissure or as a cellulitis deep in the retro-orbital fat.

Burnard, E. D., *Brit. J. Ophth.*, 43:9-12,1959.



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Therapy of Breast Cancer

JEANNE C. BATEMAN, M.D., *Washington, D.C.*

►*Cancer of the breast should be regarded and treated as a chronic disease rather than as a fatal terminal state, unless completely burned or cut out. The objectives of treatment should be to enable the patient to live a good and useful life and not to destroy her financially or psychologically.*◄

Mammary cancer, next to skin cancer, is the most common neoplasm. The standard accepted primary forms of treatment for this tumor are surgery and x-radiation. The 5-year survival rate since 1950 is 50 per cent for white women, 39 per cent for non-whites. Grouped as those with localized disease and those with regional metastases it is 72 and 42 per cent, respectively. In spite of earlier diagnosis and more extended surgical procedures, this is only a two per cent improvement over pre-1950 statistics—and 20 per cent of women having mammary cancer will survive five years with no form of therapy. Nine patients seen had breast lumps for five to 10 years prior to seeking help.

Tumors spread by contiguity, lymphatics, and the blood stream. Erosion or invasion of small venous channels in a tumor site is followed by showers of cancer cells or tumor emboli. This process is most common in areas of constant motion as in lung tumors. This phenomenon is accelerated by trauma or manipulation. That the number of circulating cancer cells is greatly increased during surgery has been demonstrated.

Treatment

There is no sure way of predicting which type of hormone therapy will be most effective in any given case, and response to hormone therapy, if achieved, is time-limited. Tumor acceleration is a definite risk. Side effects may be distressing and dangerous.

Hormone therapy can be additive (the administration of estrogens, androgens, or corticosteroids) or ablative (oöphorectomy, adrenalectomy, and hypo-

physectomy). No type of hormone therapy is of value in cases of liver or brain metastases.

Castration, surgical or x-ray, is almost standard practice in some areas for all premenopausal women, following mastectomy. Therapeutic castration for metastatic mammary cancer is employed in premenopausal and up two years post-menopausal women. Objective regression in 13 to 40 per cent of the patients for an average of nine months has been achieved.

Estrogens should be used only in patients five years or more past the menopause. Androgens can be used at any age. If a patient on androgen or estrogen therapy shows evidence of progressive disease at the end of three to four months, hormone therapy should be discontinued.

Adrenalectomy as treatment of metastatic mammary carcinoma has an operative and postoperative mortality of 6 to 10 per cent, higher for hypophysectomy. The latter procedure carries many other hazards. These patients are fragile beings and must be maintained on replacement hormones. Very short courses of x-ray therapy will alleviate bone pain and halt destructive processes which may result in fractures.

Most of the chemicals used in cancer therapy fall into three main classes: antimetabolites; alkylating agents, which are highly reactive compounds that attack nucleoproteins by combining with various of their component radicals, as carboxyl, phosphoryl or amino groups, e.g. nitrogen mustard; and cell poisons, as arsenic, benzine, chlochicine and the polysaccharides.

Therapy at Tumor Site

In addition to maintaining chemotherapy indefinitely, the importance of concentrating a drug at tumor sites has assumed growing significance. There are a number of metastatic sites to which it is impossible to administer an effective antitumor dose, except by local administration. An overall 60 per cent objective response rate to an adequately administered drug can be anticipated. Regression is not complete in every case and varies from lesion to lesion in the same individual. It is probably related to drug concentration achieved at a given site which in turn is related to vascularity of the site. In some patients there is a slowing of progression and improved well-being.

Survival was significantly better in a group treated with an anti-tumor drug (Thiotepa) than that in a similar group of cases treated by conventional procedures only. The majority of these patients resumed or continued much of their prior activ-



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1. Barden, F.W., et al.: J. Maine M. A. 46:99, 1955.
2. Ford, R.A., and Blanchard, K.: Journal-Lancet 78:185, 1958.

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TABLE 1

DOSE SCHEDULE OF *THIOTEPA* IN FAR-ADVANCED CANCER

ROUTES	INITIAL DOSE	MAINTENANCE‡	INTERVAL
Intratumor*	45-60 mg.†	5-60 mg.	1-4 weeks§
Intravenous	25-30 mg.†	5-25 mg.	1-4 weeks§

*Includes intrapleural, intrapericardial, transabdominal, intrahepatic.
†Lower dose in all patients with slowed renal excretion related to age, severe debility, chronic cardiovascular renal disease, shock, etc.
‡Dose determined by pre-treatment white blood count. Dose decreased in the presence of falling WBC. Dose omitted for WBC of 3000 or less.
§One week interval for first year.

ity; many were able to enjoy vacations. The dose schedule for patients with far-advanced cancer is shown in Table 1.

Supplemental therapy which completed the program for total care included antibiotics in infections, transfusions of whole blood or red blood cells when hemoglobin dropped to 7 Gm. per cent, sooner if the anemia was symptomatic; steroid hormones were used for asthenia; vitamins (except ascorbic acid) only when a specific deficiency existed. Vitamin B_{12} and folic acid were routinely avoided because of a possible tumor-accelerating action. On this program it has been possible to dispense with all but very mild pain medication.◄

Connecticut Med., 25:329-335,1961.

Uncommon Pulmonary Diseases

Examination revealed 3 cases of hisoplasmosis, 2 of nocardiosis, 6 of unidentified fungi associated with other pulmonary diseases, 2 of actinomycosis, one of blastomycosis, 3 of infection by atypical acid-fast bacilli, one of lipid pneumonia, and one of "sequestered lung." The varied histories, symptoms, signs, and radiologic and laboratory data indicated that patients with similar symptoms and signs may have diseases caused by quite dissimilar agents. Diagnosis of tuberculosis should be based on the cultural characteristics of the causative agents, not upon the morphologic appearance of the tissue reaction or the presence of acid-fast bacilli.

Nye, S. W., & Benson, W. R., *North Carolina M.J.*, 22:5-11,1961

Present Status of Radioisotopes in Clinical Medicine

WEI-PING LOH, M.D., *Gary, Indiana*

►*Radioactive isotopes have been used successfully both for diagnostic purposes and for treatment of various diseases. The main hazard from use of radioisotopes is radiation. As equipment used to measure radioactivity becomes more efficient and sensitive, lower tracer doses can be used with less danger.*◄

Atoms which have same atomic numbers but different atomic weights are called isotopes. Those of the same element always have identical chemical properties. Unstable isotopes break down at a characteristic rate, becoming radioactive by releasing alpha, beta, or gamma emissions or combinations. More than 1200 isotopes have been discovered, iodine alone having 21.

Diagnosis

The accuracy of the I^{131} uptake in determining thyroid function is 90-95 per cent; the general accuracy of a BMR test is 65 per cent, of the conventional protein-bound-iodine (PBI) determination, 85-90 per cent. The uptake test may be combined with tests which measure the quantity of I^{131} excreted in saliva, urine, and feces. In hyperthyroidism less I^{131} is available for excretion; in hypothyroidism more is available.

Pernicious anemia and megaloblastic anemia due to malabsorption can be diagnosed and differentiated by giving orally a dose of CO^{60}-labeled vitamin B_{12}, collecting a 24-hour urine specimen, and measuring the radioactivity of the specimen.

A malabsorption syndrome may be diagnosed by giving an oral dose of I^{131}-labeled oleic acid and withdrawing blood samples from the patient for determination of their radioactivity. Low radioactivity would indicate malabsorption. In hemolytic anemias survival time of red blood cells and red cell mass can be determined by tagging a red cell sample with Cr^{51}, then injecting the sample into the pa-

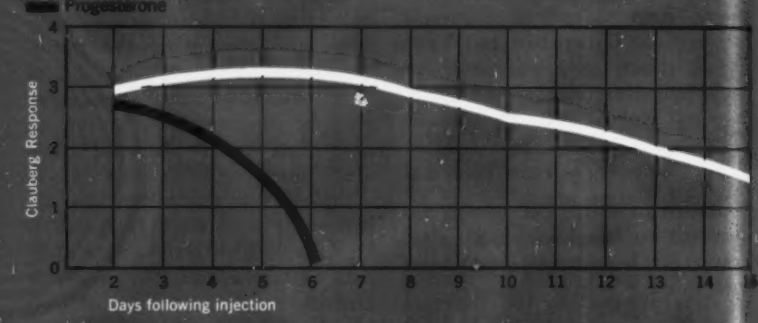
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Borman, A.: Laboratory Report on the Duration of Action of 17-Alpha-Hydroxy-progesterone-n-Caproate (Delalutin). The Squibb Institute for Medical Research, May 17, 1956.



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tient's circulation and, at intervals, measuring the radioactivity of blood samples.

Radioactive iron (Fe^{59}) has great value in studying polycythemia, leukemias, and anemias having abnormal iron metabolism.

Rose Bengal dye labeled with I^{131} has been used to test hepatocellular function. A poorly-functioning liver shows slow and reduced uptake, while biliary obstruction often results in retention of the radioactive dye. The procedure can be used to detect non-functioning areas in the liver produced by tumefaction or necrosis.

RISA and P^{32} have been used for detection and localization of brain tumors with reasonable accuracy, also degree of block in obstructive arterial disease. Total body water may be measured, using radioactive hydrogen (H^3). Radioactive sodium (Na^{22} and Na^{24}) and radioactive potassium (K^{42}) are employed to determine the total exchangeable sodium or potassium in the body.

Treatment

I^{131} is generally believed to be the treatment of choice for diffuse thyrotoxicosis in patients of 40 or older; in all patients with recurrent hyperthyroidism following surgical removal of the gland; and in all surgical risks. Patients with progressive exophthalmos may either regress or become stationary following I^{131} treatment, but the exophthalmos usually progresses following surgical removal of the gland. Contraindications to I^{131} treatment include pregnancy, lactation, and possibly youth, and resectable solitary nodular goiter. P^{32} in small doses is standard treatment in polycythemia vera. It generally takes two months to reach its full effect.

Some 90 per cent of patients with intractable angina pectoris and 50 per cent of patients with intractable congestive heart failure can be made comfortable by the administration of a small dose of I^{131}. Intermittent claudication can be benefited by the isotope in some cases.

Colloidal Au^{198} and radioactive colloidal chromic phosphate have value in the treatment of intractable effusions, especially those due to metastic cancer. Treatment is most effective when para- or thora-centeses become necessary at shorter intervals. Injection or insertion of Au^{198} has value in treatment of carcinoma of the prostate; in solution, balloon or capsules, it has been used with success in the treatment of urinary bladder, bronchogenic, and pelvic cancer.

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Nicotinamide	50 mg.
Pyridoxine hydrochloride	1 mg.
Pantothenic acid	5 mg.
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Sr^{90} in the form of superficial beta radiation is most useful in the treatment of pterygiums, corneal ulcers, and vascularization and other ocular lesions.

Hazard

The main hazards are those arising from radiation. Tracer doses used in diagnostic procedures are usually too small to be harmful. Therapeutic doses are greater and should be handled in the same manner as x-ray therapy. For I^{131} alone up to a year ago, 10 cases of acute leukemia had been reported after its use for hyperthyroidism. Personnel in isotope laboratories are in greater danger than patients.

As time goes by, as more diagnostic and therapeutic procedures will become available, it is possible that in the near future coronary circulation of the heart can be easily determined through the use of radioisotopes. The equipment used to measure radioactivity will become more efficient and sensitive. Thus, there will be a lower tracer dosage which complies with the principle that the least amount of radioisotope used, the greater protection there is against radiation hazard.◀

J. Indiana M.A., 54:618-624,1961.

Monthly Rhythm of Libido in Married Women

Of 123 healthy women married from one to 22 years seeking contraceptive advice, who were asked whether they noticed any increase in sexual desire during their menstrual cycle, 59% answered that enhancement occurred around the time of menstruation, when fertility would be expected to be minimal; only 6% reported increased libido around midcycle (ovulation time), when fertility is highest; and 34% reported no rhythmically occurring increase of sexual desire. The contradiction between the time of maximum desire and the likelihood of conception was a striking finding.

Questioned about knowledge of the safe period, 43% were ignorant of this, 47% placed it around menstruation, which is generally accepted as the least fertile time, and 10% said that it was at midcycle, when conception is most likely. Knowledge of the safe period does not appear to have any influence on enhancement of sexual desire during the monthly cycle.

Hart, R. D., *Brit. M.J.*, 1:1023-1024,1960.

Recognition and Treatment of Depression

JOHN C. RODINE, M.D., H. ANGUS BOWES, M.D., and JAMES E. GILBERT, M.D., *Aberdeen, South Dakota*

►*Depression is an alteration of the mood much more severe than that experienced as a result of even the most tragic experience. Supportive psychotherapy of the simplest type, with appropriate medications which are now available, will relieve this condition in more than 60 per cent of all patients.*◄

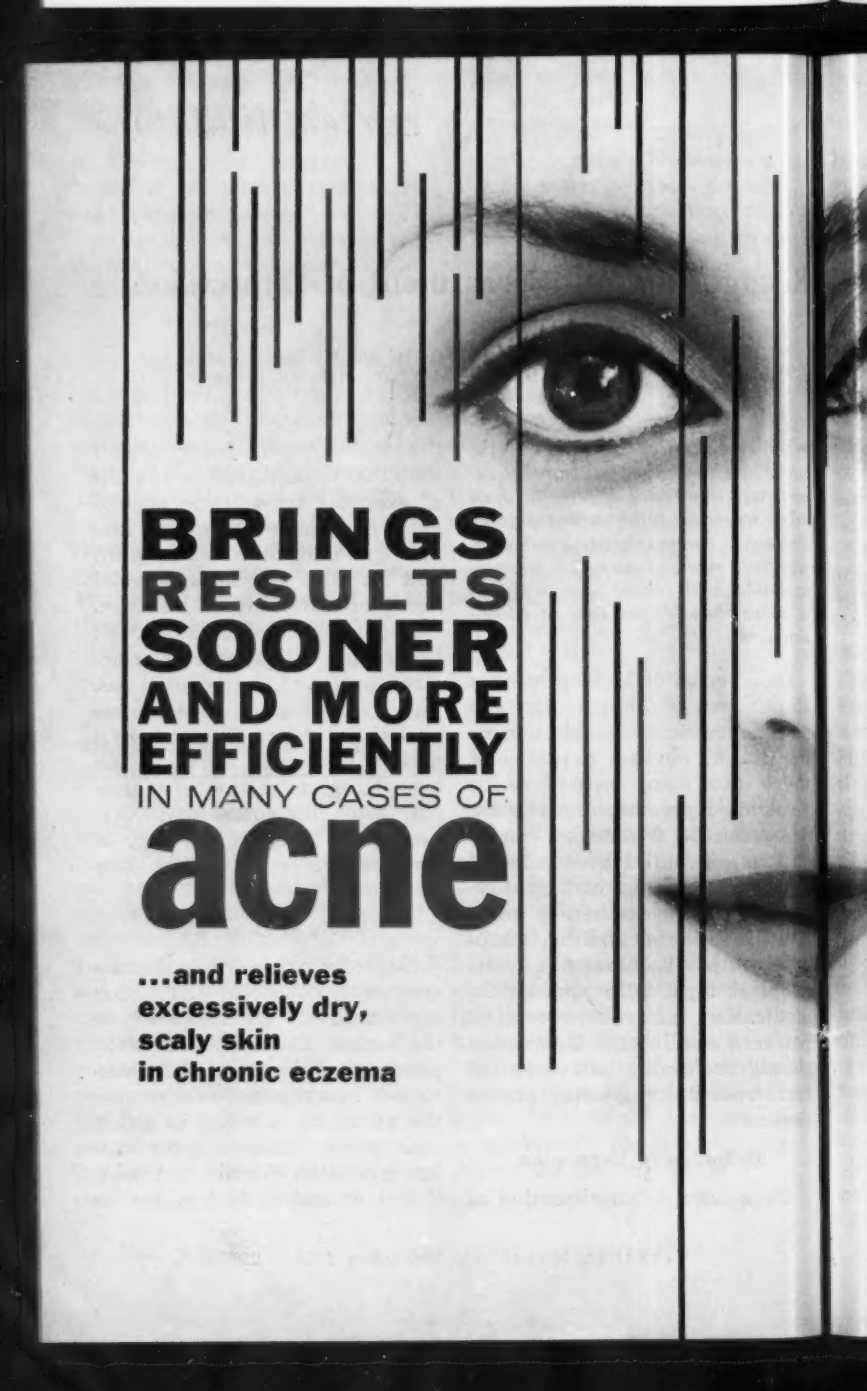
In a period of 18 months over 25 per cent of 700 patients seen had depressions. In addition to the frank, obvious depressions, there are many secondary or masked depressions. All these cases can be treated by combinations of anti-depressant and anti-anxiety drugs with gratifying results. Psychotherapy alone is futile in these conditions. Supportive psychotherapy of the simplest type, with appropriate medication, can relieve over 60 per cent of all cases. Depression should preferably be recognized and treated by general practitioners.

Definition of Depression

Depression is an alteration of the mood much more severe than that experienced as a result of even the most tragic experience. The patient appears listless, apathetic, may look haggard and ill, with the lines of grief heavily etched upon his face. Others are excited and, although depressed, will appear over-active, anxious, or tremulous. Many complain of hopelessness or lack of desire for food, that all food has lost its taste and that everything, no matter what they eat, tastes like cotton wool. One may go to sleep easily, only to awaken at 2 or 3 a.m. and sleep no more.

Kinds of Depression

Neurotic or reactive depression and psychotic depression are commonly differentiated; in the former, the reaction is often precipitated by some loss sustained. In a psychotic depression the alteration of mood is severe and usually there is gross misinterpretation of reality, at times delusions and hallucinations, as


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well as intractable insomnia, guilt, and concern over various somatic functions.

Diagnosis

By the time the patients are referred to a psychiatrist the diagnosis is fairly simple, but in the early stages it is difficult. Anything from anxiety to dementia with numerous physical overtones may be mimicked. The depressive illnesses usually start with a lowering of the mood and of physical, mental, and social activities. The patient becomes taciturn and morose; his sleep is no longer refreshing and he tends to wake early and to dread the long day ahead. Every movement becomes an effort. Food loses its flavor and he has to force himself to eat. There is loss of sexual desire in the male and often menstrual disturbances in the female. Constipation and gaseous distension, headaches, muscle pains in the arms, legs, and trunk are common. There is loss of interest in former avocations, in visiting and recreational pursuits, and a reluctance to participate in family matters. Anxiety attacks with fears of going insane occur in many cases, also preoccupation with feelings of guilt and remorse. As the depression deepens, come feelings of hopelessness and helplessness. The neurotic symptoms of the depressive reaction are now becoming psychotic. The patient with recurrent depressions is usually 40 years or over and a family history of manic-depressive illness is found in half the cases.

Depression in Disguise

This disease appears in a diffuse and vague fashion, the signs often taking the form of a physical illness, often referable to the gastrointestinal tract; complaints of obstinate constipation or of recurrent dyspepsia and the exclusion of physical illness is difficult; but, if the attacks occur periodically and have an effect on the patient's well-being exceeding by far the objective findings, a depressive illness should be suspected. A few, well-chosen questions as to whether depression is felt, and, if so, at what time of day, whether there is altered sleep rhythm, loss of appetite, and whether the outlook with regard to the future looks hopeless, usually permits easy recognition of underlying depression.

Treatment

The two most effective and least toxic drugs are phenelzine (Nardil), three to five 15-mg. tablets daily, and imipramine (Tofranil), three to six 25-mg. tablets daily. To control the anxiety chlordiazepoxide (Librium), three to six 10-mg. capsules

daily, is most effective in all but psychotic depressions. With the rapid reduction in anxiety, the patient feels better and is encouraged to take this anti-depressant drug for the several weeks which may be necessary before the depressive component of his illness is relieved.

Both phenelzine and imipramine can produce hypotension, dry mouth, blurred vision, and constipation. They should not be given to patients with a history of serious liver disease. In those depressions in which insight is lost, a phenothiazine (e.g., Thorazine) should be substituted for the chlordiazepoxide. General practitioners are advised not to treat psychotic depressions—the chances of suicide are too great. Many patients with senile depressions who have failed to respond to any of the anti-depressant drugs improve rapidly on L'Glutavite, one teaspoonful three times daily in tomato or vegetable juice. This compound is especially effective when, because of anorexia, the patient has been taking an inadequate diet.

Use of Psychotherapy

Psychotherapy is basically a matter of common sense and its effective use in all branches of medicine distinguishes the good doctor from the poor. In a depression the physician should try to convince the patient and his nearest relatives that he knows what he is talking about, that depression is as organic a disease as a peptic ulcer, and that it takes time to recover and the relatives must not try to increase feelings of guilt and unworthiness by driving the patient too hard. As the symptoms of depression begin to unfold, the physician should ask about other symptoms. The patient and his relatives will then realize that depression is a well-recognized illness.

That mental illness is possession of devils is still in many minds. Reassured, the patient can shift the emphasis to the psychologic and social aspects of the illness. The relatives should be told, in front of the patient, just how miserable a disease this is to have, and not to push too much, not to try to "snap him out of it" by jocularity and appeals to "will power" and to "pull himself together." Tell them that he will improve immediately with the reduction in anxiety by the chlordiazepoxide, but that it will take about three weeks before his depression lifts. The patient should be asked if he doubts his ability to keep from self-destruction for the next few weeks. If there is a history of suicidal attempts or severe suicidal ruminations, the patient should be referred im-

mediately. A third of the depressions treated have had short courses of ECT, given in the local general hospital, and the patient staying an average of five days.

The future of psychiatry lies in the hands of the general practitioner; if he uses the treatment outlined in the many cases of depression he sees every week, he will find it a rewarding experience.◀

South Dakota J. Med. & Pharm., 14:59-62,1961.

Oleandomycin: Intraocular Penetration

Experimental studies in rabbits with oleandomycin (an antibiotic similar to streptomycin in its spectrum) showed that:

1. Topical administration in concentrations ranging from 1 to 10% produced aqueous humor levels ranging from 2.35 to 37.4 μg./cc. at 3 hours, solutions stronger than 5% proving to be somewhat irritating.

2. Intravenous administration at dosages of 25 and 50 mg./kg. produced aqueous levels averaging 2.32 and 3.38 μg./cc. at 1 hour, the drug appearing to remain longer in the aqueous than in the blood stream.

3. Subconjunctival administration in concentrations of 1.0 and 2.5 mg./cc. produced aqueous levels averaging 0.428 and 0.785 μg./cc. at 2 hours.

4. Oral administration at dosages of 125 and 250 mg./kg. produced aqueous levels ranging from 1.82 to 11.80 μg./cc. at 1 hour, the level in the vitreous 4 hours after 125 mg./kg. averaging 6.21 μg./cc.

Oral administration of 1000 mg. triacetyloleandomycin (Cyclamycin) to 3 patients before operations for cataract or open-angle glaucoma and to another before enucleation for hemangioma of the choroid produced detectable amounts of the drug in the aqueous of 1 of the 2 cataract patients and in the aqueous and vitreous of the enucleated hemangiomatous eye.

The potential value of oleandomycin for treatment of ocular infections due to sensitive gram-positive organisms was confirmed. An initial oral dose should be in the range of 125 mg./kg. Repeat doses can be smaller and can be given every 6 to 8 hours.

McCoy, G. A., & Leopold, I. H., *Am. J. Ophth.*, 48:666-669,1959.

Nutrients in California Lemons and Oranges

Samples of fruit were taken during 2 seasons from 8 major growing areas in relation to the volume of production of those areas. Valencia oranges were sampled early in August, Eureka lemons in late July, and navel oranges in February, dates coinciding with the crest of shipments for each of the 3 varieties.

Analyses showed that the amounts of calcium, iron, biotin, niacin, and pantothenic acid in the peeled fruit significantly exceeded those in the juice. Minerals (calcium, magnesium, phosphorus, potassium, and sulphur) were present in the juice and peeled fruit of both oranges and lemons, slightly more in oranges. The sodium content of both fruits was low and potassium content was high. Spectrographic analysis revealed the presence of many other minerals which may be of nutritional value in trace amounts.

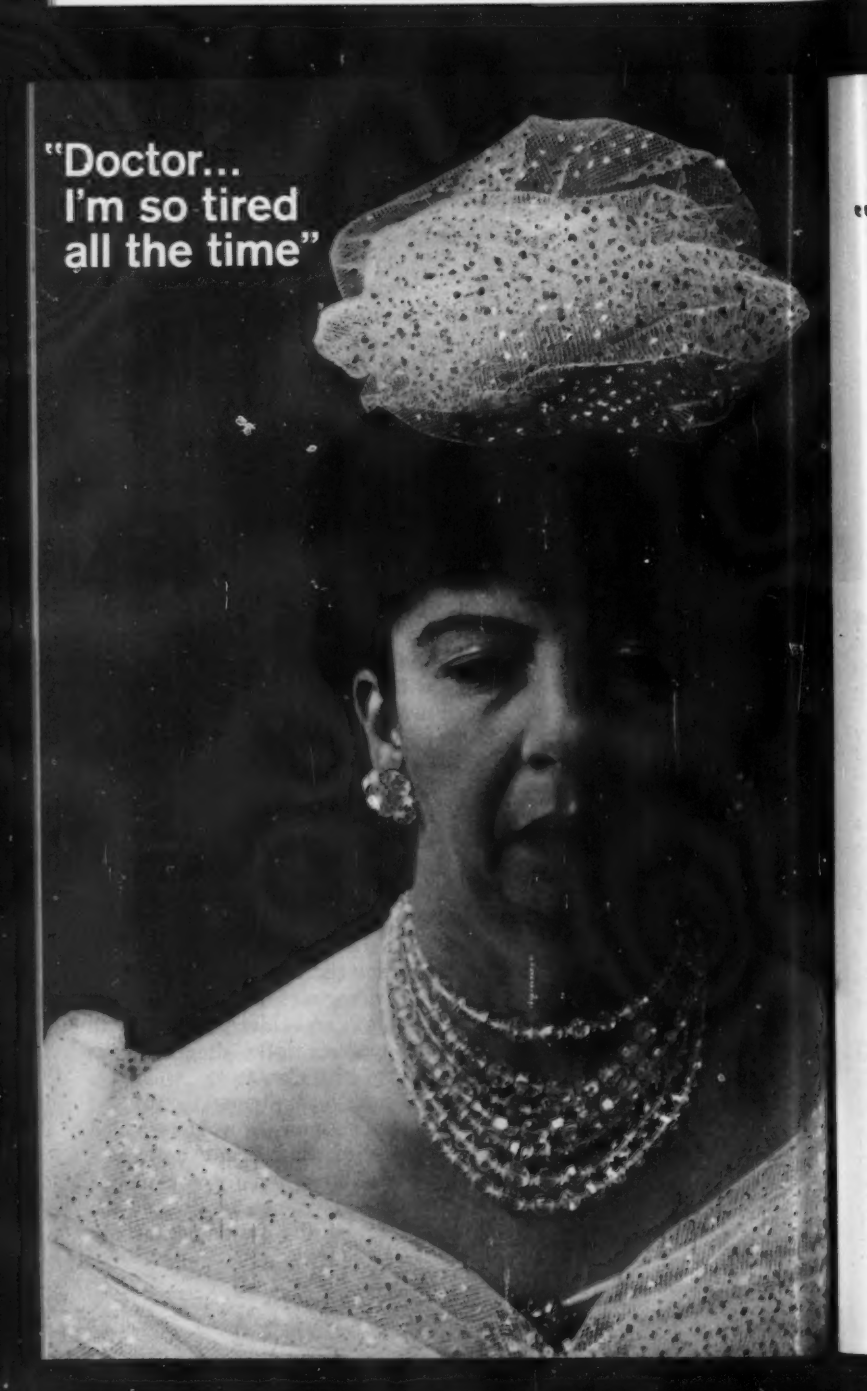
Ascorbic acid was present in all samples in quantities of nutritional significance (39 to 59 mg. per 100 Gm.). The peeled fruit or juice of this amount of oranges would contribute from 2 to 8% of the daily allowance for niacin, riboflavin, and thiamine. The lemons contained somewhat less of these nutrients. The results establish that these fruits can contribute, in addition to ascorbic acid, important amounts of many other nutrients.

(I) Joseph, G. H., & (II) Birdsall, J. J., et al., *J. Am. Dietet. A.* 38:552-559,1961

Multiple Myeloma

A case presented as pneumonia and anemia, the nature of which was unrecognized until multiple myeloma was suspected, after which many of the characteristic findings of the disease were demonstrated. In a second case, an elderly man had lymphadenopathy, leukocytosis, and atypical cells in his peripheral blood, marrow, and nodes, which were difficult to classify but ultimately were associated with the characteristic myelomatous protein changes. The third case was that of an elderly man with osteoporosis later diagnosed as multiple myeloma.

There is evidence to suggest that myeloma is a generalized disease of the hematopoietic system, although many consider a malignant change in the plasma cell to be the fundamental ab-


"Doctor...
I'm so tired
all the time"

On Ritalin, patients "...go all day without tiring."*

When lethargy is a medical problem—in menopause, senility, convalescence, oversedation, and mild depression, for example—the gentle stimulant action of Ritalin restores normal physical and mental activity. Summarizing the results of therapy with Ritalin in 89 patients who were either chronically ill, convalescing, depressed, or oversedated, Natenshon* states: "They were alert, fatigue disappeared, and they could go all day without tiring."

*Natenshon, A. L.: Dis. Nerv. System *17*:392 (Dec.) 1956.

SUPPLIED: *Tablets*, 5 mg. (pale yellow), 10 mg. (light blue), 20 mg. (peach colored). For complete information about Ritalin (including dosage, cautions, and side effects), see current Physicians' Desk Reference or write CIBA, Summit, N.J.

RITALIN® hydrochloride (methylphenidate hydrochloride CIBA)

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gentle stimulant for lethargic patients

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normality. Such change, with subsequent encroachment on the bone marrow and reticuloendothelial system, leads to lymphadenopathy, hepato- and splenomegaly, to the depression of the bone marrow elements, and to leukemia, thrombocytopenia, or anemia. A normal marrow or failure to find plasma cells does not rule out the disease.

Myeloma may involve the kidney in 3 ways:

1. Associated with the presence of Bence-Jones proteins, tubular casts, surrounding giant-cell formation, and renal failure. It should always be suspected in a rapidly developing renal failure in one not hypertensive.

2. Multiple myeloma occasionally causes deposits of amyloid about the glomerular tufts and appears clinically as the nephrotic syndrome.

3. The concept of hypercalcemia, nephrocalcinosis, and renal failure is important in association with myeloma.

In each of the 3 cases of multiple myeloma the presenting feature had caused some difficulty in diagnosis and each was entirely distinct, one from the other. Multiple myeloma is to be thought of as an ever broadening disease complex rather than as one disease condition.

Parsons, D. W., *J. Kentucky M.A.*, 58:1300-1307,1960.



IN SINUSITIS AND OTHER RESPIRATORY DISORDERS

Chymar®, *for one thing*

Systemic Anti-inflammatory Enzyme Preparation

CHYMAR helps ameliorate respiratory disorders by exerting beneficient anti-inflammatory and mucolytic actions.[1,2,3]

. . . in **SINUSITIS,** the anti-inflammatory action of CHYMAR reduces engorged and edematous nasal mucosa with resultant clearing of nasal passages.[1]

. . . in **BRONCHITIS,** CHYMAR liquefies thickened bronchial secretions greatly facilitating the raising of sputum.[1]

Concomitantly with CHYMAR'S liquefaction of thickened bronchial secretions, 88.6% of a series of 88 bronchial asthma patients were clinically improved.[3]

1. Parsons, D. J.: Asthma, bronchitis, rhinitis and sinusitis: Adjunctive treatment with intramuscular chymotrypsin, Clin. Med. 5:11, 1958. 2. Teitel, L. H., *et al.:* Clinical observations with chymotrypsin, Indust. Med. 29:150, 1960. 3. Taub, S. J.: Chymotrypsin therapy of bronchial asthma, Clin. Med. 7:2575, 1960.

ARMOUR PHARMACEUTICAL COMPANY KANKAKEE, ILLINOIS *Originators of Listica®*

CHYMAR—Chymar Aqueous and Chymar (in oil) contain chymotrypsin, a proteolytic enzyme with systemic anti-inflammatory and antiedematous properties. ACTION: Reduces inflammation of all types; reduces and prevents edema except that of cardiac or renal origin; hastens absorption of blood and lymph extravasates; restores local circulation; promotes healing; reduces pain. INDICATIONS: Chymar is indicated in respiratory conditions to liquefy thickened secretions and suppress inflammation of mucosa and bronchiolar tissue; in accidental trauma to speed reduction of hematoma and edema; in inflammatory dermatoses to ameliorate acute inflammation in conjunction with standard therapies; in gynecologic conditions to suppress inflammation and edema and stimulate healing; in surgical procedures to minimize surgical trauma with inflammation and swelling; in peptic ulcers and ulcerative colitis as an adjunct to diet, antispasmodics, antacids, etc.; in genitourinary disorders to reduce pain and promote faster resolutions; in ophthalmic and otorhinolaryngic conditions to lessen hematoma, edema and inflammatory changes; in dental procedures to lessen pain and gum tissue trauma, with inflammation and swelling, in reaction to extractions or surgery. PRECAUTIONS: Chymar and Chymar Aqueous are for intramuscular injection only. Although sensitivity to chymotrypsin is uncommon, allergic or anaphylactic reactions may occur as with any foreign protein. The usual remedial agents should be readily available in case of untoward reaction. Precautions (scratch testing for Chymar, scratch or intradermal testing for Chymar Aqueous) should be exercised in those patients with known or suspected allergies or sensitivities. DOSAGE: 0.5 cc. to 1.0 cc. deep intramuscularly once or twice daily, depending on severity of condition. Decrease frequency as course of condition is altered. In chronic or recurrent conditions, 0.5 cc. to 1.0 cc. once or twice weekly. SUPPLIED: 5 cc. vials, 5000 Armour Units of proteolytic activity per cc.

Ruptured Diaphragmatic Hernia: Common Accident Injury

A series of injured drivers who were admitted to hospital in advanced surgical shock all had injuries of the head, thumbs and patellas, 4 had a ruptured spleen, in 3 the left kidney and in one the right was ruptured, 2 had spinal cord injuries, 2 had perforated viscera, and one a ruptured liver. In 4 cases deviation of the trachea was noted. All showed abdominal rigidity or spasm.

Emergency treatment consists of administration of oxygen and the use of a Levin nasal tube for gastric suction. Plasma is given immediately, until the blood group is known. The patient is put on a mobile to facilitate transport to the x-ray department. His neck is held in extension by sandbags and the head elevated to increase the respiratory reserve.

Quick surgical intervention under endotracheal anesthesia is preferred in order to restore the herniated viscera to the abdomen as soon as possible and excise ruptured organs. A ruptured kidney, if the attending urologist agrees, is left in place, the bleeding being retroperitoneal and controlled by its closed environment.

Daily film studies of the thorax must be made to follow the complete expansion and aeration of the lung. Atelectasis of the left lung must be prevented. All patients should receive nasal oxygen postoperatively until the cardiovascular system is stabilized. Continuous gastric suction may be maintained with a Foley catheter left in place and a drainage bottle by the bedside.

The incidence of major injuries through motor accidents demands that general hospitals formulate a routine of emergency room diagnosis and therapy. The immediate aims are to control hemorrhage, repair perforations and restore the respiratory physiologic status by special surgical measures.

Fryfogle, J. D., et al., *J. Internat. Coll. Surgeons*, 33:18-23,1960.

Spontaneous Fracture Dislocation of Sternum

A boy of 18 was performing a "back uprise" on the parallel bars. In this maneuver, at the height of the backward swing, and while still keeping the arms

With its combination of 5 proven therapeutic agents, BRONKOTABS dilates the bronchioles... thins and helps expel thick mucus... combats local edema ...offers mild sedation... and treats the allergic component. Gets right to the root of asthmatic distress with minimal side effects, and none of those associated with steroids.

In a study of 40 patients with bronchial asthma, 24 persons (60%) reported BRONKOTABS brought good relief from asthmatic symptoms – ease of expectoration, reduction of bronchospasm and increased vital capacity. Only seven patients failed to respond at all. "The combination of drugs used [in Bronkotabs] gave greater relief in these patients than the conventionally used tablet [ephedrine, theophylline, phenobarbital]..."[1]

In another study, 79.7% of 64 asthma patients showed good to excellent response to BRONKOTABS therapy.[2]

Each tablet contains: theophylline 100 mg.; ephedrine sulfate 24 mg.; phenobarbital 8 mg. (warning: may be habit forming); thenyldiamine HCl 10 mg.; and glyceryl guaiacolate 100 mg. Supplied: bottles of 100 white scored tablets. Usual precautions associated with sympathomimetic amines should be observed.

References: 1. Spielman, A. D.: Evaluation of a Combination Tablet of Theophylline, Ephedrine Sulphate, Phenobarbital, Thenyldiamine and Glyceryl Guaiacolate in the Treatment of Chronic Asthma, Ann. Allergy 18:281, 1960. 2. Waldbott, G.: Bronkotabs – A New Antiasthmatic Preparation (Preliminary Report), Int. Arch. Allergy 17:116, 1960.

For full information on Breon's five antiasthmatics, see pp. 538-539 of the 1961 PHYSICIANS' DESK REFERENCE plus the 2nd, 3rd, or 4th quarterly supplement.

BRONKOTABS®

CLEARS and DILATES the bronchial tree with MINIMAL SIDE EFFECTS



a full line of antiasthmatics designed to meet every patient's need

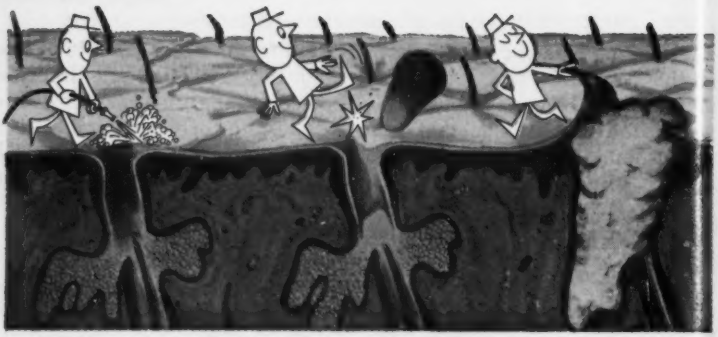
BREON **Rx Products Division, Breon Laboratories Inc., New York 18, N. Y.**

straight, by sudden contraction of the pectoralis and latissimus muscles the body is thrust upwards and forwards so that the performer is supporting himself on the parallel bars only by his hands with the arms extended in the vertical position and the body also vertical, parallel to the arms. It was during this phase of the maneuver that the patient experienced sudden severe pain in the midline of the upper chest. The gymnast was forced to drop from the bars and was unable to move.

He complained of severe pain at the sternal angle aggravated by each breath, was pale and sweating, pulse 60, BP 130/84, R shallow, 20 to 30, abdominal. There was an obvious deformity at the junction of the manubrium with the gladiolus. It was postulated that the posterior dislocation of the manubrium might so press on the mediastinal contents as to cause vagal slowing of the heart rate, and that reduction of the deformity might by sudden removal of the slowing influence, give rise to ventricular fibrillation. It was decided to reduce the deformity under general anesthesia, with the cardiac defibrillator and the cardiac pacemaker attached through arm and chest leads. The reduction under endotracheal anesthesia with the patient supine proved to be simple. A median vertical incision made across the site of the deformity revealed the inferior border of the manubrium dislocated posteriorly, a complete tear of the anterior joint capsule and a triangular fracture not seen on the radiograph. Two small drill holes were made in the manubrium side by side, so that the prongs of an ordinary towel clip could be placed through the drill holes to grasp the manubrium. It was then elevated with ease into its normal position. With this maneuver the heart rate rose to 90 and the BP fell to 100/70 mm., and within one minute the BP returned to normal and the heart rate stabilized at 76. Fixation was by mattress suture of No. 25 stainless steel wire. The capsule of the joint was then sutured with No. 2 chromic catgut. The patient returned to the ward to lie supine on a firm mattress with fracture boards.

After 48 hours a figure-8 axillary bandage of flannelette was applied and the patient then allowed to be ambulatory. The postoperative course was excellent and he was discharged from the hospital in 2 weeks. He began normal physical training and returned to gymnastic activities including the back uprise, 4 months after his injury. He has been able to do this maneuver without discomfort or other incident.

Croome, R. R. M., *Canad. M.A.J.*, 284:1021-1022,1961.



Fostex® treats pimples·blackheads·acne while they wash

degreases the skin
helps remove blackheads
dries and peels the skin

Patients like Fostex because it's so easy to use. Instead of using soap, they simply wash acne skin with Fostex Cream or Fostex Cake 2 to 4 times daily.

Fostex contains: Sebulytic® base (unique, penetrating, surface-active combination of soapless cleansers and wetting agents*) with remarkable antiseborrheic, keratolytic and antibacterial actions . . . enhanced by micro-pulverized sulfur 2%, salicylic acid 2% and hexachlorophene 1%.

***sodium lauryl sulfoacetate, sodium alkyl aryl polyether sulfonate and sodium dioctyl sulfosuccinate.**

Fostex Cream and Fostex Cake are interchangeable for therapeutic washing of the skin. Fostex Cream is approximately twice as drying as Fostex Cake. Supplied: Fostex Cake—bar form. Fostex Cream—4.5 oz. jars. Also used as a therapeutic shampoo in dandruff and oily scalp.

And . . . since continuous 24-hour drying and peeling of acne skin is essential, FOSTRIL (a new, flesh-tinted drying lotion) should be used once or twice daily in addition to Fostex therapeutic washings. Fostril® contains Liposec® (polyoxyethylene lauryl ether), a new, surface-active drying agent used for the first time in acne treatment. This agent, with 2% micropulverized sulfur and a zinc oxide, talc and bentonite base, provides Fostril with excellent drying properties. Fostril also contains 1% hexachlorophene.

Available: Fostril, 1½ oz. tubes. Fostril-HC (¼% hydrocortisone) 25 gm. tubes.

WESTWOOD PHARMACEUTICALS • Buffalo 13, New York

Nasal Hemorrhage: Indications for Surgical Ligation

Bleeding of 2 patients hospitalized for severe persistent nasal hemorrhage was stopped promptly and completely by ligation of the external carotid and anterior ethmoid arteries. Results in these cases suggest that procedures for interrupting the blood supply to the nose, with their low morbidity and freedom from sequelae, should be adopted more widely. Accurate observation of the source of bleeding and an understanding of the blood supply to the nasal chambers are required in determining the appropriate vessel or vessels to be ligated.

Helpful guides:

1. Regions of the nose above the middle turbinate are supplied from the internal carotid by the anterior and posterior ethmoids.

2. The posterior and inferior portions of the nasal walls and septum are supplied from the external carotid by the sphenopalatine.

3. The anterior portion of the nasal septum is supplied from the external carotid by the superior labial (a branch of the facial).

4. The external carotid is reached through an incision from the level of the angle of the jaw to the midpoint of the thyroid cartilage, on a line parallel with and slightly posterior to the anterior border of the sternocleidomastoid muscle. The tie is placed between the superior thyroid and lingual arteries.

5. The anterior ethmoid, approached through a curved incision made medial to the inner canthus of the eye and carried to the bone, is reached by elevating the periosteum in a posterior direction to a depth of about 4 cm. from the nasal bridge.

Quinn, F. B., Jr., *Arch. Otolaryng.*, 72:734-742,1960



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A DISTINCT THERAPEUTIC ENTITY*

Restores and maintains skin's normal protective acidity—speeds natural healing and helps sensitive skin resist irritants and infection.

A NOTABLE VEHICLE

Special water-miscible, evaporable base assures better dispersion, greater concentration of active ingredients in contact with skin—increases response through its own therapeutic action.

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pH 5.0

Response of 113 Patients with various skin disorders to Cor-Tar-Quin Creme and Lotion†

Condition	No. of Cases	Complete Remission	Improved	No Response
Seborrheic dermatitis	37	31	6	0
Neurodermatitis	41	18	22	1
Atopic eczema	16	7	9	0
Tinea cruris	3	1	1	1
Other dermatoses	16	4	12	0
TOTALS	113	61 (54%)	50 (44%)	2 (2%)

†Adapted from Olansky, S.

"Especially effective"[1] for lesions characterized by SCALING, LICHENIFICATION AND INFECTION

Description: Cor-Tar-Quin is a unique topical creme or lotion, combining micro-dispersed hydrocortisone alcohol, ½%, or liquor carbonis detergens 2% and diiodohydroxyquinoline 1% in the Acid Mantle® vehicle.

References: (1) Olansky, S.: Antimicrobial-Steroid-Tar Combination in Treatment of Subacute and Chronic Dermatoses, J.M.A. Georgia 50:398 (Aug.) 1961.

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Circumcision: Simple and Rapid Technique

Among several thousand circumcisions done using a clamp device, the only complications seen have been bleeding (usually in the first hour and controlled by pressure, ligation or suture), stenosis of opening from the removal of too little skin and mucous membrane, and separation of skin and mucous membrane at the point of crushing.

A simple operative technique employing a clamp and practicable in the office involves the following steps:

1. The operative area is washed with a detergent emulsion (pHisoHex).

2. The posterior raphé of the penis is identified and grasped with a small hemostat at the edge of the foreskin.

3. The points of another small hemostat are dipped in sterile lubricating jelly, introduced into the foreskin opening, and gently spread, separating mucous membrane from glans.

4. The foreskin opposite the raphé is then grasped with this hemostat, and both edges pulled forward.

5. The circumcision clamp is applied at an angle to include more tissue anteriorly than posteriorly and to follow the slant of the corona. The glans is held back by the guard and cannot be injured.

6. The foreskin is excised.

7. Several threads are taken from a gauze sponge, twisted and used as ties in the next step. Since these ties are external, they will eventually slough. Gut ties for this purpose are unnecessary.

8. The clamp is removed and a small bite of the crushed, adherent skin and mucous membrane at the posterior raphé and its anterior counterpart are grasped with small hemostats, this tissue ligated with the prepared cotton threads. In this manner, blood supply to the cut surface is assured and adherence of skin and mucous membrane encouraged.

9. The foreskin is gently retracted to expose the glans.

10. Coronal adhesions are carefully separated with a probe dipped in sterile lubricating jelly.

11. Petroleum jelly is applied externally and replaced with each diaper change. Healing is complete in 72 hours.

Kantor, H. I., *Obst. & Gynec.*, 15:89,1960.

You and your patients

should read

the story beginning on page 69—

December, Reader's Digest.

It deals tersely and thoughtfully

with major issues

raised in the investigation of

the prescription drug

industry.

This message is brought to you on behalf
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Pharmaceutical Manufacturers Association
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Diarrheal and Other Intestinal Disorders: Treatment with Lactobacillus Acidophilus

A stable, dried, viable culture of lactobacilli (Bacid) was used in treatment of 59 patients with antibiotic diarrhea, infectious diarrhea, colostomies with either diarrhea or constipation, constipation from certain drugs, mucous or spastic diarrhea, diverticulitis, ulcerative colitis, abnormal fermentation, and several cases following treatment of amebiasis. In most cases there was a rapid improvement in less than 24 hours. Failures occurred in 1 case of chronic pancreatitis with explosive diarrhea and 1 case of a colostomy with diarrhea.

Beck, C., & Necheles, H., *Am. J. Gastroenterol.*, 35:522-530,1961.

Quarantine Outmoded

Small children ought to be exposed to mumps and rubella rather than protected from these diseases while they are at school. There should also be no routine quarantine for schoolchild contacts of measles, whooping-cough, mumps, rubella, and chicken-pox. This should be the practice in all primary and preparatory schools where the disease is likely to be milder, less of a nuisance, and carry much less risk of any serious complication.

School doctors should restrain their enthusiasm and not take any active steps to prevent the spread of these common infectious diseases among schoolchildren. The infectious diseases regulations at some schools are far too strict. The instruction about returning to school after exposure to infection during the holidays is unnecessarily rigid, and health certificates might well be abolished since they probably do not serve any useful purpose.

Warin, J. F., *Brit. M.J.*, 2:429,1959.



NOW: Tain Oral Suspension (Triacetyloleandomycin, Triaminic® and Acetaminophen). Write Dorsey, Lincoln, Nebraska for literature.

Imperforate Anus

Absence of an anal orifice usually is discovered quickly. First steps are to determine the presence and location of any associated fistula. If there is no evidence of an opening in the perineum or vagina a sample of urine is obtained and examined for the presence of meconium; in infants who have not voided it may be necessary to use a catheter. If a No. 8 F. can not be passed into the bladder the chances are great that a recto-urethral fistula exists. If no communication is demonstrable the approach is usually perineal, but assuming an abdominal incision may be necesasry. The superficial sphincter, though underdeveloped, is the primary means of control, and must not be damaged. After the bowel is pulled through the perineum and remains in place without tension, the gut is sutured to the anal skin with interrupted 5-0 silk sutures. Usually the pelvis is filled with the large bowel so that no reconstruction of the pelvic floor is necessary.

An imperforate anus with a recto-vesical or recto-urethral fistula is corrected through the abdomen. In fistula to the urethra or bladder, the only perineal dissection is in locating the superficial sphincter. A catheter should be placed in the urethra before the fistula is repaired.

In those having an imperforate anus with a perineal or vaginal fistula, surgical treatment is not of an urgent nature. Usually the infant is able to pass meconium adequately through the fistula. The mothers of these infants are directed to keep the stools soft by giving high carbohydrate formulas or a daily enema. At 3 months, if the child is doing well and gaining weight, surgery is done via the perineal. In case of recto-vaginal fistula the dissection is also done from below.

Immediately after operation, to prevent contamination of perineal wounds, the child is placed in a crib with the leg elevated in a modified Bryant's traction. After the wound is healed dilations are immediately begun with a well lubricated plastic centrifuge tube and continued until the opening is kept adequate by the forceful passing of firm stools.

When dealing with the imperforate anus, the surgeon who places the initial scalpel to the perineum is the one who has the best and probably the only opportunity for giving that child a competent sphincter. A perineum that has been invaded several times by the surgeon's knife is scarred, non-elastic and almost always a poorly functioning one.

DeBoer, A., *J. Indiana M.A.*, 53:1116-1119, 1960.

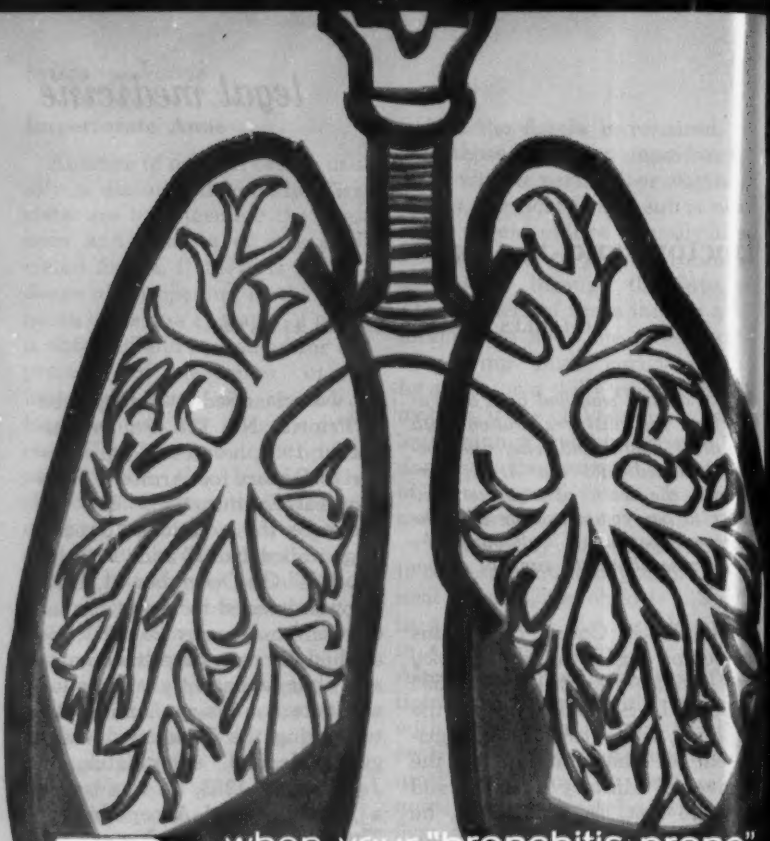
Doctors and the Law

CHARLES J. FRANKEL, M.D., LL.B., *Editor*

►*Is a doctor, who had both a regular and specialist registration with his draft board, and who, after being inducted into the Army, performed the work of a doctor, entitled to pay commensurate with the services performed although he never rose above the rank of corporal?*◄

The U.S. Court of Claims passed on this question in *Belsky* vs *United States,* 290 F. (2d) 593 (1961). In September, 1948, the plaintiff, who was then 20, registered for the draft under the Universal Military Training and Service Act. In July, 1949, he was classified IA, which classification was changed in December, 1949 to IIA to enable him to complete his education. He was again classified IA in July, 1952.

In June, 1951, the plaintiff, having completed his medical education, also registered for the draft as a special registrant under the Doctors Draft Act. His questionnaire under this special registration was mailed to and returned by him in August, 1952. As a special registrant, the plaintiff was classified IA and placed in Priority No. 111. On December 30, 1952, he received an "Order to Report for Armed Forces Physical Examination." The order bore the notations "Special Registration No. 1" and "Priority No. 111." On December 31, 1952, he was ordered to report for induction on January 20, 1953. He applied for an officer's commission but apparently no action was taken on his application. After taking the "Specialist Category: Medical" examination on January 16, 1953, he was issued a "Certificate of Acceptability." The plaintiff was inducted into the Army on February 5, 1953, and, except for his period of basic training, his Army service was in the capacity of a medical doctor. For a part of his period of service he received the pay of a private and for the remainder of his service he received the pay of a corporal. The plaintiff was seeking here to recover the difference between a captain's pay and the amount he was paid for his services.





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You probably have patients who tend to develop recurrent BRONCHITIS—or other bacterial sequelae, such as adenitis, otitis, tonsillitis, pneumonitis or sinusitis—after u.r.i. Help prevent recurrence and relieve common cold symptoms with ACHROCIDIN. ☐ **Each Coated Tablet contains:** ACHROMYCIN® Tetracycline HCl, 125 mg.; phenacetin, 120 mg.; caffeine, 30 mg.; salicylamide, 150 mg.; chlorothen citrate, 25 mg. ☐ **Usual adult dosage:** 2 tablets q.i.d. ☐ **Also available:** Syrup, caffeine-free (lemon-lime flavored).

Request complete information on indications, dosage, precautions and contraindications from your Lederle representative, or write to Medical Advisory Department.

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The government contended that the plaintiff was inducted as a regular draft registrant and that the Army could, therefore, assign him to any task which needed to be done. The Court said that it would seem that a rational use of skills in the Armed Forces would mean that a regular draft registration, filed when the registrant had no special skill, would be displaced by a later special registration filed after the registrant had acquired the skill of a doctor. Although the draft board allowed both registrations to stand, the various papers issued immediately before and at the time of plaintiff's induction show that the persons issuing them thought they were inducting a specialist—a doctor. Further, since the plaintiff served exclusively in the Army as a doctor, he is entitled to be paid accordingly.

►*In his application for professional liability insurance a doctor stated that no claims for professional errors or mistakes had ever been made against him. Shortly before the doctor applied for the insurance, a patient had complained of his treatment; she did not bring suit until after the policy was issued. Can the insurer rescind the policy on the ground that the application contained a material misrepresentation of fact?*◄

This question was passed on by the U.S. Court of Appeals for the Ninth Circuit in *American Mutual Liability Insurance Company* vs *Goff*, 281 F. (2d) 689 (1960). In January, 1955, a doctor was issued a professional liability insurance policy. The doctor had answered "None" to question 15 of the written application. That question was as follows: "No claims for professional errors or mistakes have ever been made against me . . . except as follows."

In November, 1954, a patient that the doctor had treated had telephoned one of the doctor's office nurses at her home and expressed dissatisfaction with the treatment she had received. The gist of the patient's grievance was that she had become addicted to narcotics because the doctor had prescribed excessive quantities; she threatened to sue. The nurse informed the office manager and the doctor's associate of the call; they in turn informed the doctor, who was then in a sanitarium, of the complaint. Later, in a letter to the doctor, his associate referred to the "impending suit for malpractice" but expressed the hope that the matter would soon blow over. The patient did not file suit until after the professional liability policy had been issued to the doctor.

The insurer sought to have the policy rescinded on the ground that, in view of this complaint by a patient which was outstanding against him, the doc-

tor's answer to question 15 constituted a material misrepresentation of fact. The Court said that question 15 was ambiguous in that it did not delineate or explain the extent of "claims for professional errors." It was not clear whether "claims" included all grievances lodged with the applicant or was limited to formal demands for compensation. If a clause in an insurance policy is ambiguous, it is to be construed in favor of the insured. Thus, "claims" as used in question 15 must be interpreted as referring to formal demands only. It does not include an ordinary grievance which was all that had been raised against the doctor at the time he applied for the policy; ordinary grievances such as this one are certainly not unfamiliar to members of the medical profession. It therefore follows, said the Court, that the insurer is not entitled to have the policy rescinded on the ground of misrepresentation of a material fact.

►*In a malpractice action, are the extrajudicial admissions of the defendent doctor competent as the expert testimony necessary to establish a prima facie case against the defendant doctor? Can a doctor be held liable for injuries resulting from a family diagnosis which was negligently made?*◄

These questions were before the Supreme Court of Oklahoma in *Greenwood* vs *Harris,* 362 P. (2d) 85 (1961). The plaintiff consulted the defendant doctor for the purpose of finding out whether or not she was pregnant. After examining her and having several laboratory tests made, the defendant told the plaintiff that she was not pregnant but that she had an internal tumor which should be surgically removed immediately. The plaintiff consented to the operation which was performed by defendant. The operation disclosed that the plaintiff did not have a tumor but was 3½ months pregnant. The plaintiff alleged that the defendant's closing of the incision was so negligent that she has a rough and unsightly scar and that there is pain associated with the scar.

The plaintiff testified that the defendant came to her room the morning after the operation and said, "I'm sorry, I should have made more tests on you." The plaintiff's husband testified that when the defendant came out of the operating room he said to him, "Your wife is approximately three to three and a half months pregnant, this is a terrible thing I have done, I wasn't satisfied with the lab report, she did have signs of being pregnant. I should have had tests run again, I should have made some other tests."

The defendant contended that the plaintiff had not made out a prima facie case because she had presented no expert testimony showing that he had been negligent. The Court said that the extrajudicial admissions of a defendant doctor, who is himself an expert, are competent to supply the expert testimony required to make out a prima facie case. The statements that the defendant made to the plaintiff and her husband are sufficient to establish negligence on the part of the defendant. Those statements can be interpreted in no other way than as an admission that a faulty diagnosis had been made because of the defendant's failure to use and apply the customary and usual degree of skill exercised by doctors in the community. The Court then went on to point out that one of a doctor's fundamental duties is to make a properly skillful and careful diagnosis of his patient's ailment, and if he fails to exercise the proper degree of skill and care and makes an incorrect diagnosis, he is as liable to the patient for the damage thus caused as he is for the application of improper treatment.

►*Can a hospital be held liable for the aggravation, through allegedly negligent treatment, of an injury which is covered by the Workmen's Compensation Act?*◄

This question was before the Iowa Supreme Court in *Bradshaw* vs *Iowa Methodist Hospital,* 101 N.W. (2d) 167 (1960). The plaintiff who had suffered a back injury covered by the Workmen's Compensation Act was treated at the defendant hospital. In this action the plaintiff sought to recover damages for the aggravation of the original injury caused when he fell while in the hospital. He alleged that the hospital was negligent in that he was unattended at the time he fell, even though he had complained of being dizzy.

The defendant contended that the plaintiff's exclusive remedy for any aggravation of his original injury was against his employer under the Workmen's Compensation Act. The Court said that the plaintiff could recover, under the compensation act, for any aggravation of his compensable injury during the treatment thereof, provided he was not negligent in selecting those who administered such treatment. However, the fact that the plaintiff has the right to obtain statutory compensation from his employer for the results of defendant's allegedly negligent treatment does not necessarily mean that he may not sue defendant at common law for all damages caused by such treatment. The plaintiff had a right of action at common law in negli-

gence against the defendant and he still has that right unless the compensation act has taken it away from him. The Court said that it found nothing in the state's compensation act which takes away the plaintiff's right of action against the defendant; the only common law actions in negligence that are abolished by the act are those between employee and employer.

►*The plaintiff doctor sold his interest in a medical partnership to the other partners who entered into a new partnership agreement. The plaintiff then entered into an agreement with the new partnership to work for it as an "associate physician" for which work he was to be paid a sliding percentage of the partnership's net income. Was the plaintiff an employee, within the Social Security Act, for the period that he worked under the employment agreement?*◄

The U.S. Court of Appeals for the Eighth Circuit passed on this question in *Cody* vs *Ribicoff*, 289 F. (2d) 394 (1961). The plaintiff doctor, who was a member of a medical partnership, indicated to the other members that, because of his advanced years and general failing health, he wished to be relieved of his duties as an active surgeon and of the responsibilities imposed upon him as a member of the partnership. On June 1, 1955, he sold all his interest in the partnership and its property to the remaining partners who then entered into a new partnership agreement. On the same day, the plaintiff entered into an agreement with the new partnership to work for it as an "associate physician" for the period from June 1, 1955, to July 31, 1957. The agreement provided that the plaintiff would devote a reasonable measure of his time to serving the partnership's professional practice but that he himself should determine the extent of his activity. The plaintiff's compensation was fixed on a percentage basis with the amount decreasing from a maximum of 20% to a minimum of 10% of the partnership's net income. The Agreement also provided that the plaintiff's compensation was subject to the customary payroll deduction for withholding and other taxes.

The plaintiff applied for Social Security benefits claiming that he was eligible therefor on the ground that he had been an employee of the new medical partnership from June 1, 1955, to August 1, 1957. The Social Security Administration denied his claim. A referee of the Appeals Council of the Administration found, after a hearing, that the plaintiff was not an employee of the new medical partnership and was, therefore, not entitled to old-age insurance benefits; the Appeals Council affirmed the ref-



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spares your patient a lengthy and troublesome recovery

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eree's decision.

The Court said that the factor of control is of extreme importance in determining whether a person is an "employee" under the Social Security Act. The referee found, on the basis of the employment agreement and the parties' subsequent acts, that the new partnership's members did not exercise such direction and control over the details and methods of the plaintiff's work that he could be considered their employee. The Court said that this finding clearly indicated that the referee did not comprehend that it is the *right* of control, rather than the *exercise* of control, that is important with respect to the issue of control. There was also testimony by the plaintiff and the members of the partnership that he was subject to their direction in the performance of his work. It also appears, said the Court, that the referee's findings were induced by the fact that he was unable to conceive that a doctor of the plaintiff's standing could be a "servant" of another. On the basis of his questioning of the plaintiff it would seem that the referee thought that the plaintiff could be an employee only if he had gone to a different firm or been employed by a laboratory as an innoculator of white rats. The Court said that the law does not require a doctor to work for a firm such as a clinic, or in such junior activities as innoculating white rats, where control of his activities would obviously be more direct and apparent, to be considered an "employee" within the meaning of the social security legislation.

There were, said the Court, other circumstances which establish that the plaintiff's status was changed to that of an employee by the employment agreement. His income dropped materially after the date of that agreement. All fees earned by him inured to the benefit of the partnership. The plaintiff had completely discontinued operations as an independent practitioner—he had no office, office furnishings, or medical equipment of his own. He had no share in the risks, and liabilities of the new partnership.

The Court said that it was also of no significance that the employment agreement referred to the plaintiff as an "associate physician" rather than as an "employee" and that his compensation was geared to the partnership income. It is clear from the record as a whole that the plaintiff was an employee and he is, therefore, entitled to old-age insurance benefits.◄

The Doctor Builds His Estate

Prepared monthly for the readers of Clinical Medicine by the Research Department of Bache & Co., 36 Wall Street, New York 5.

►These monthly articles point out one method by which the physician may overcome the handicap imposed upon him by taxes on the bulk of his income at normal rates, as opposed to the capital gains tax open to many business men. One solution is systematic investment of current income in securities.◄

Speculation—what is it? Just how does one go about speculating, anyway? Well, for one definition, our dictionary suggests "buying and selling stock . . . with the expectation that changes in market prices will result in a profit." This might seem superficially acceptable. But the Latin from which the term is derived means, among other things, "to examine"—and this is a lot closer to our own working definition of a speculator: one who investigates carefully, weighs potential gains against potential risks, and acts when the odds are in his favor.

Of course, the key here is that both gain and risk are present—even if the potential gain is many times greater than the potential loss, the loss can be very real. Thus, only those who can honestly afford to take a loss can afford to speculate.

For those with the financial ability to assume a measure of speculative risk, we have chosen the following issues as offering interesting capital gains opportunities in the months ahead.

Studebaker-Packard

Studebaker-Packard is a good example of what we mean when we say a stock is attractive, but speculative. Under new management, this company looks as if it is well on the way to profitability, after a period of heavy losses. The non-auto end of their business now includes six divisions, producing such diverse items as generating plants, tractors, floor maintenance machines, plastics, oil additives, and missile re-

search—all of which could result in 1962 sales on the order of $135 million and pre-tax net of $10 million, up some 10% from 1961. Management also has its eye on Government contracts, hoping to build the backlog in this area to $90 million by year-end.

Studebaker - Packard, formed on October 1, 1954, by a consolidation of Packard Motor Car and Studebaker Corporation, derives most of sales from passenger cars, trucks, parts, and accessories.

Under a diversification program, Gering Products of Kenilworth, New Jersey, producer of plastic items, and C. T. L., Inc., of Cincinnati, a plastics research and manufacturing concern, were acquired in May-August, 1959. In 1960, the company purchased Gravely Tractors (self-propelled outdoor power tools) for cash and stock, Clarke Floor Machine (floor polishers, etc.) for cash, and D. W. Onan & Sons (electric generators, etc.) for cash and stock. Combined annual sales of these five companies in their last complete fiscal years were $53.5 million and their pre-tax earnings were $6.9 million.

A management contract with Curtiss-Wright was terminated in October, 1958. Since then, Mercedes-Benz Sales, Inc., a wholly-owned subsidiary, has had exclusive distribution rights for Mercedes-Benz cars, trucks, and related parts and accessories in North America. DKW and Auto Union lines of cars and trucks were added later. Wholesale and tourist deliveries of these vehicles in 1960 totaled 12,687, up 5% from 1959.

All domestic motor vehicle production has been consolidated at South Bend, Indiana. Curtiss-Wright bought one South Bend unit and the Utica, Michigan, plant (which it earlier had leased) in October, 1959. Detroit facilities were sold in 1957. Subsidiaries operate plants in Canada and Mexico.

Current prospects are encouraging, certainly, and it comes at a time when the outlook for the automotive line is particularly bright. Top industrial designers Raymond Loewy and Brooks Stevens have worked their creative magic on both the Hawk and the Lark; the restyling plus some new options aimed at the true motoring enthusiast—such as bucket seats, four-speed gearbox, and sliding sunroof—have fired the imagination of a rejuvenated dealer organization.

Dealer carry-over of 1961 models is low, and we can foresee sales of about 120,000 cars in 1962. This, we figure, should bring total pre-tax net to about $36 million, or a surprising $3.00 a share, meaning a price-earn-

STOPS THE ASTHMA ATTACK IN MINUTES...FOR HOURS... ORALLY

ELIXOPHYLLIN®

RAPID RELIEF IN MINUTES—in 15 minutes[1,2,3] mean theophylline blood levels are comparable to I. V. aminophylline—so that severe attacks have been terminated in 10 to 30 minutes.[1,4,5,6] **Note:** *With Elixophyllin the patient can learn to abort an attack in its incipient stage.*

INHERENT SUSTAINED ACTION—After absorption theophylline is slowly eliminated during a 9-hour period.[7] Clinically *proved* relief and protection day and night with t.i.d. dosage.[1,3-6,8,9]

NO UNNEEDED SIDE EFFECTS—Since Elixophyllin does not need "auxiliaries," it contains no ephedrine—no barbiturate—no iodide—no steroid. *Gastric distress is rarely encountered.*[8,9]



Each tablespoonful (15 cc.) contains theophylline 80 mg. (equivalent to 100 mg. aminophylline) in a hydro-alcoholic vehicle (alcohol 20%).

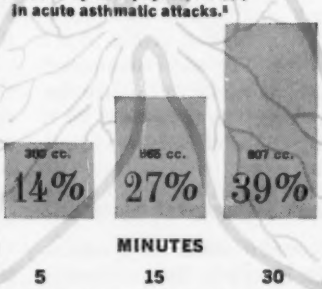
ACUTE ATTACKS:

single dose of 75 cc. for adults; 0.5 cc. per lb. of body weight for children.

24 HOUR CONTROL:

for adults 45 cc. doses before breakfast, at 3 P.M., and before retiring; after two days, 30 cc. doses. Children, first 6 doses 0.3 cc.—then 0.2 cc. per lb. of body weight as above.

Average increase in vital capacity produced by Elixophyllin, 75 cc., in acute asthmatic attacks.[5]



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Patent Pending

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STUDEBAKER-PACKARD

Price 10½	Long-Term Debt. $26,306,254
Dividend ..... None	$5 Cum. Pfd. Stock ($100 par); red. after 1968 at $100; each share convertible into 33⅓ common shares since 1/1/61 ..... 14,335 shs.
Yield ..... None	
Traded ..... N.Y.S.E.	$5 Cum. Second Pfd. Stock (100 par); conv. into 120,000 shares ..... 30,000 shs.
	Common Stock ($1 par) ..... 12, 245, 204 shs.

ings multiple presently less than 10 even assuming the company would have to pay full taxes, which of course it won't.

Where's the risk, you ask? For one thing, the public may not take to the new models as enthusiastically as we think they will. And the company has been losing money—may only break even for the year, given a very good fourth quarter. We think the stock might drop back to 9, or lower, if higher profits don't materialize. Yet we recommend purchase, as we can visualize the stock moving up to around 20 if our projections of earnings prove realistic.

King's Department Stores

Our second stock for speculation is King's Department Store. King's has compiled an excellent record in the discount department store field. Sales and earnings gains from year to year (with one minor exception) compare favorably to even the most successful competitors in the industry. For the fiscal year to end January 31 , 1962, net sales should approximate $40 million while earnings should climb to the $1.10-$1.20 range. Currently, a program is under way designed to double the company's retail floor space. This endeavor should produce earnings next year of approximately $1.40-$1.60 per share with much higher results likely in the following year.

We believe King's is one of the best managed entities in the discount department store group and, as such, is likely to continue to prosper while others fall by the wayside in the face of toughening competition. We further believe that these shares at 19 times this year's earnings and about 14 times estimated results for the next year are realistically priced and should be purchased for continued long-term capital gains.

King's was a pioneer in discount stores, having opened its first unit in 1949. Today, the company operates 14 self-service stores in six states with an aggregate floor area of 826,000 square feet. Five more stores totalling 325,000 square feet will be opened later this year. Seven stores with 450,000 square feet are planned for 1962, bringing total area in place to around 1,600,000 square feet by the end of 1962.

Net sales (excluding leased departments) reached $8.5 million in 1956 (fiscal year ended January 1, 1957) with four stores in operation with produced net income of $282,000 or $0.35 per share. In 1960, revenues from 13 units were $34.9 million and net income was $676,000 or $0.84 per share. Actually, King's high point in net income was achieved in 1959 when earnings were $1.10 per share, but a slight decline occurred in the following year because of some unusual pre-opening expenses and an unforeseen delay in the opening of one store. In the current fiscal year, sales should rise to around $40 million with net income achieving a new high of over $1.1 million or over $1.10 per share based on 1,050,000 shares outstanding after the sale of 250,000 new shares in August, 1961. (The old high of $1.10 per share was based on 800,000 shares.)

In 1962, King's will have the benefit of six new stores opened this year plus partial benefit from the seven new units planned for next year. Thus, sales next year should jump to around $55 million or better so that earnings in the $1.40-$1.60 range are now regarded as a reasonable expectation. By 1963, the current expansion program seems to indicate the likelihood of revenues in the area of $70 million.

Among the features of the King's operations which have produced such success are the following: self-service, cash and carry, low occupancy rates, adequate parking, direct deliveries of merchandise to stores by vendors, quantity buying and the use mainly of one-story air-conditioned and well lighted stores. New stores will average about 63,000 square feet overall.

It is quite interesting that despite its low-markup, high-volume mode of operation, King's has been producing pre-tax profit margins which have averaged around 5.0%, a figure well above the average for this industry. This, of course, is not easy to achieve. We further estimate (based on incomplete information) that return on stockholders' equity was as high as 40% after taxes in 1959. Needless to say, this result is remarkable

King's Department Stores			
Price	26	Capitalization	
Dividend	None	Long Term Debt.	$72,060
Yield	None	Common Stock	
Traded	OTC	$1 Par	1,050,000 shs.

and, at the same time, is one of the reasons why so many others are entering the industry.

On the question of increasing competition, our feeling is two-fold: (1) the industry is still quite young with considerable room to grow for at least 3-5 years, although not indefinitely at the current fantastic rate; (2) history has proved again and again that there is always room for the best operators to grow and prosper in retailing regardless of the extent of competition. King's, we believe, is likely to emerge eventually as one of the stronger and larger chains in the group if the company's unusually fine past experience is to prove any guide to the future.

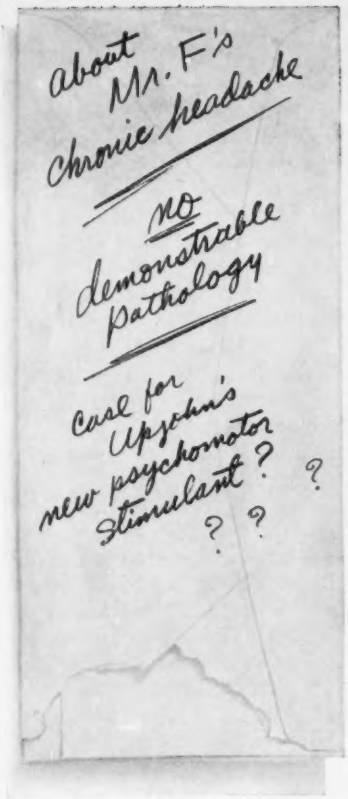
Southern Nitrogen

Our final company for investigation is Southern Nitrogen, a recently organized fertilizer producer. In 1957, its first year of operations, the Southern Nitrogen Company recorded sales of $2.77 million and sustained a net loss of $3.20 million. In 1960, the company generated $11.69 million in sales on which $1.22 million in non-taxable profits (no taxes were paid because of a tax loss carryforward) was brought down to net. Sales for 1961 are expected to expand to $13.25 million and net before taxes will be slightly better than $2 million or $1.65 per share. Total cash flow will amount to more than $3.3 million or $2.60 per share. This outstanding record has been the result of several factors, not the least of which have been the foresight of the management in tapping an undeveloped market, and the daring of these same men in successfully constructing the ultimate in leveraged situations.

This management team, a group of former executives from the Spencer Chemical Company, recognized the growing fertilizer needs of the Southeast and formed the Southern Nitrogen Company in 1954 when Spencer declined to construct facilities to serve Georgia, Florida, South Carolina, and North Carolina territories. Today, these areas alone account for about 90% of Southern Nitrogen's sales, for the company, whose nearest competitor is 400 miles away, of-

fers freight advantages, quick delivery and personal consulting services. For the future the company plans to hedge against potential competition in its own areas by market expansion in adjoining territories and also in the Midwest through a unique series of exchange agreements with nitrogen producers in these territories. Product diversification is on the horizon too. One of the raw materials used in the production of nitrogen is natural gas containing the element carbon which opens up whole new vistas of organic chemical product possibilities.

To prepare for the expected rapid increase in nitrogen consumption, Southern Nitrogen has just entered into another expansion phase which will increase its gross property account by more than a third. By next year, management estimates that sales will approach $16.5 million and earnings will be $1.40 per share fully taxed. Another $1.35 per share will be generated in depreciation charges. When the full $5 million expansion program is completed, the company's sales potential will be $20 million and earnings close to $1.80 per share. We believe this will come about within two years, at which time the company will no longer be restricted by heavy sinking fund requirements, and may proceed to ex-



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Monase*

*Trademark, Reg. U.S. Pat. Off.—brand of etryptamine acetate

SEE PAGE 2391

Upjohn

75th year

pand or acquire other firms with internally generated funds.

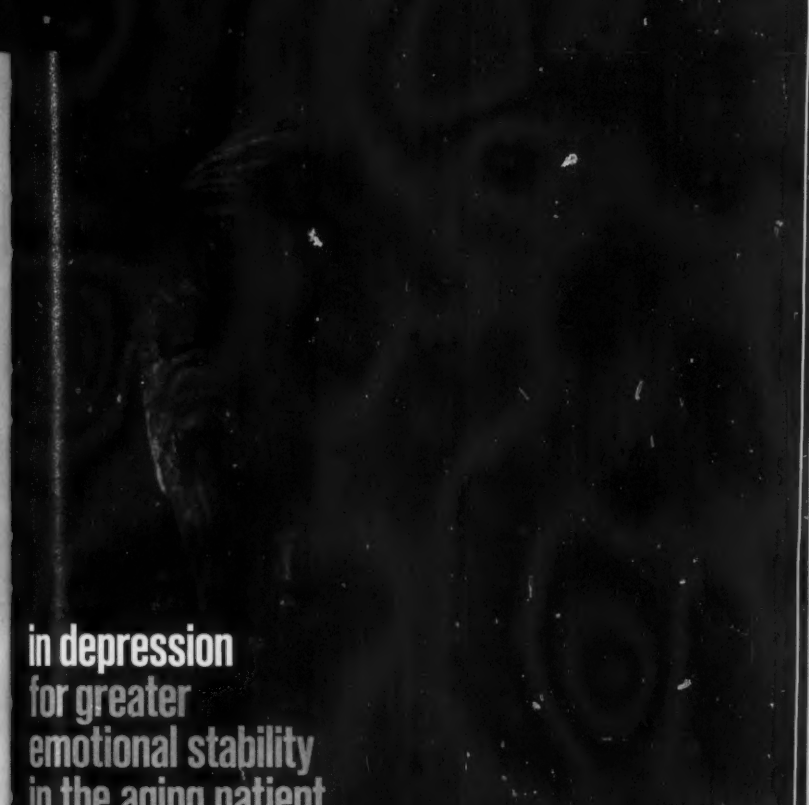
At about 10 times potential earning power and at 12½ times expected 1962 earnings, virtually all of which will be realized in the first half because of the seasonal nature of the business, the shares offer the possibility of substantial speculative capital gains.

The risks are serious, however. The threat of competition in Southern's own territory is ever present. And with the prospect of new firms cashing in on growing nitrogen consumption, the possibility of overcapacity exists. But the company feels that the industry will require an additional 500,000 tons of capacity by 1965 to meet future demand and even to avert a serious shortage. Then too, new markets and product diversification are in the offing as a counter measure to the possible loss of Southern's competitive advantages in its own areas.

On the financial side, the risks continue. The company's earned deficit will not be wiped out until year-end 1962. In the event of liquidation, therefore, the stockholder has virtually no equity in the company's assets. Moreover, sinking fund and interest requirements are currently very large, so that one bad season might hamper future growth immeasurably. The very nature of these hazards, though, has been the raison d'etre of Southern's growth to date without equity dilution. Funds have been supplied by substantial financial institutions under sinking fund requirements which are extraordinarily flexible. But most important, Southern Nitrogen has already demonstrated not only its ability to show a profit, but to grow rapidly. The earnings are there, despite all claims upon them. On balance, we believe the low price of the stock discounts these risks substantially.

Southern Nitrogen Company was organized in December, 1954, in order to provide a nearby source of nitrogen fertilizer to the Southeast region of the U.S. About a year later when financing arrangements had been completed, the construction of a nitrogen plant was begun in Savannah, Georgia. The plant went on stream in the spring of 1957, and reached substantial production by October of that year.

In 1958, the company formed a wholly-owned subsidiary, the Florida Nitrogen Company, to produce nitric acid and nitrogen fertilizer solution at Tampa. Florida Nitrogen has a long-term contract with the Tennessee Corp., which has begun to supply Southern's subsidiary with 30,000 tons annually of anhydrous ammonia at cost from Ten-



in depression for greater emotional stability in the aging patient

Tofrānil® Tablets of 10 mg. for geriatric use

brand of imipramine hydrochloride

Geigy

During the declining years, frustration arising from declining capacity to participate in social and family activities often leads to depression, manifested frequently in unpredictable swings of mood.[1]

The value of Tofrānil in restoring the depressed elderly patient to a more normal frame of mind has received strong support from recent studies.[1-3] Under the influence of Tofrānil, such symptoms as irascibility, hostility, apathy and compulsive weeping are often strikingly relieved with the result that life becomes easier both for the patient and those around him.

Since the dosage requirements of elderly patients are lower than those of the non-geriatric patient, Tofrānil is made available in a special low dosage 10 mg. tablet designed specifically for geriatric use. Full product information regarding dosage, side effects, precautions and contraindications available on request.

References. 1. Cameron, E.. Canad. Psychiat. A. J., Special Supplement 4:S160, 1959. 2. Christe, P.. Schweiz. med. Wchnschr. 90:586, 1960. 3. Schmied, J., and Ziegler, A.: Praxis 49:472, 1960.

Tofrānil®, brand of imipramine hydrochloride: Triangular tablets of 10 mg. for geriatric use; also available, round tablets of 25 mg., and ampuls for intramuscular administration only, each containing 25 mg. in 2 cc. of solution (1 25 per cent).

Geigy Pharmaceuticals
Division of Geigy Chemical Corporation
Ardsley, New York

TO-657-61

nessee's recently completed Florida facilities.

Southern Nitrogen's products are primarily nitric acid, ammonium nitrate solution, anhydrous ammonia and liquid urea. The company is currently involved in an expansion program which will increase its capacity substantially.

Most of Southern's output is sold for direct application under the company's own brand names (which it advertises like a consumer item) while a much smaller portion is sold to manufacturers who further process it for mixed fertilizers. Profit margins are higher on products which don't require further processing.

The third largest processor of nitrogen east of the Mississippi (ninth largest in the U.S.), Southern Nitrogen in the 12 months ended June 30, 1961, supplied 35% of Georgia's nitrogen fertilizer requirements, 18% of Florida's, 20% of South Carolina's and 6% of North Carolina's. With its major facilities strategically located at Savannah, about 400 miles away from its nearest competitor, the company enjoys several advantages, namely low freight costs for customers, and promptness of delivery. In addition, the compact nature of the market aids advertising and promotion campaigns and permits close and effective association with agricultural extension services in promoting farmer education.

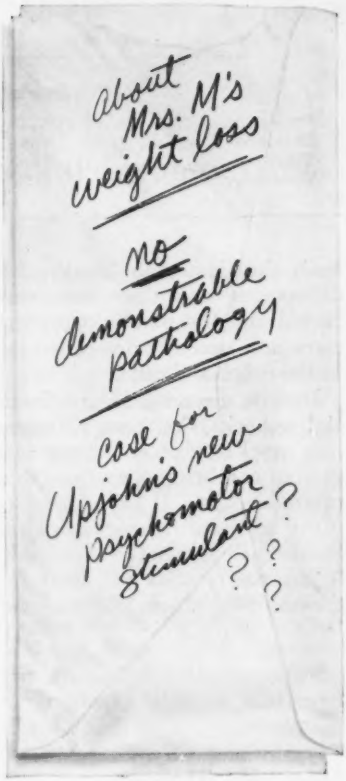
It is expected that the growth in fertilizer consumption in the Southeast will not be as fast in the future as in some other sections of the U.S., particularly the Midwest. Southern Nitrogen anticipates expanding its markets to the Midwest, however, through exchange agreements with nitrogen producers in that area. Moreover, as national consumption of nitrogen rapidly approaches total supply, it is expected that some producers who are currently shipping to the Southeast will find it more advantageous to sell their output in nearer markets. Thus, Southern Nitrogen may well gain an increasing share of the Southeast territory.

A word must be said here regarding the government's farm program and its ultimate effect on fertilizer consumption. Up until now the farmer's required restriction of acreage has not had an adverse effect on fertilizer consumption; in fact, endeavoring to obtain a higher yield per acre, the farmer has increased his usage of fertilizers substantially. The Administration's current attitude toward farm policy is thought to be "standoffish" and no radical changes are expected by the industry over the near

term. In any case, industry feeling is that fertilizer consumption is more a function of farmer sophistication rather than agricultural economics, and most companies work hand in hand with public agencies in initially trying to educate crop growers and then keep them up to date with advances in technology and method.

Prices have been firm for nitrogen fertilizers because of the favorable relationship of supply and demand, and 1961 has even seen an average of a 3% price rise in Southern Nitrogen's principal products.

As for earnings, it should be noted that pre-production and start-up expenses while the Savannah Works was being constructed and placed on an integrated basis were not capitalized or deferred to future operating periods. In 1955 and 1956, losses of $463,000 and $1.79 million were incurred, respectively, hence the tax loss carryforward. During 1957, while the plant was being started up, production costs were in excess of those considered to be normal. Southern Nitrogen claims that the major portion of its losses during this period was the direct result of faulty construction and design of facilities and has brought a $6 million suit against the Girdler Construction Company, a division of Chemetron Corp., who



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SEE PAGE 2391

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SOUTHERN NITROGEN

Price	19	Capitalization	
Dividend	None	Long Term Debt.	$12,477,000
Yield	None	Common Stock	1,250,000 shs.
Traded	OTC		

built the Savannah Works. All deficiences have since been corrected and the plant's operating rates now exceed rates called for in the original design.

Despite these significant financial setbacks, Southern Nitrogen was quickly able to recoup lost ground and bring operations to a profitable basis. If 1961 forecasts prove accurate (management has consistently estimated accurately in the past), sales will have increased 66% since 1958 and net operating earnings before taxes will have leaped 230%. Of course, we do not anticipate future growth to parallel the past profits rise at a time when the company first began to generate sales above the break-even point. On proposed plant the break-even point is $8 million in sales and 40% pre-tax of each incremental dollar is brought down to net. Thus, in 1962 when full taxes will be paid, earnings are estimated at $1.40 per share.◀

Trypsin and Chymotrypsin: Absorption Through Intestinal Mucosa

The actions of these proteolytic enzymes were compared by determining their proteolytic action against hemoglobin at various time intervals after they were added to freshly drawn intestinal fluid. After 30 minutes, both enzymes had reduced proteolytic action, trypsin retaining 8% of its original activity and chymotrypsin retaining 43 to 63% of its original activity. Preparations of enzymes for oral administration now available contain 68 and 84% trypsin and 30 to 16% chymotrypsin, respectively. Since chymotrypsin is more stable, a preparation containing this enzyme alone might prove useful.

Avakian, S., *New England J. Med.*, 264:764-765,1961.

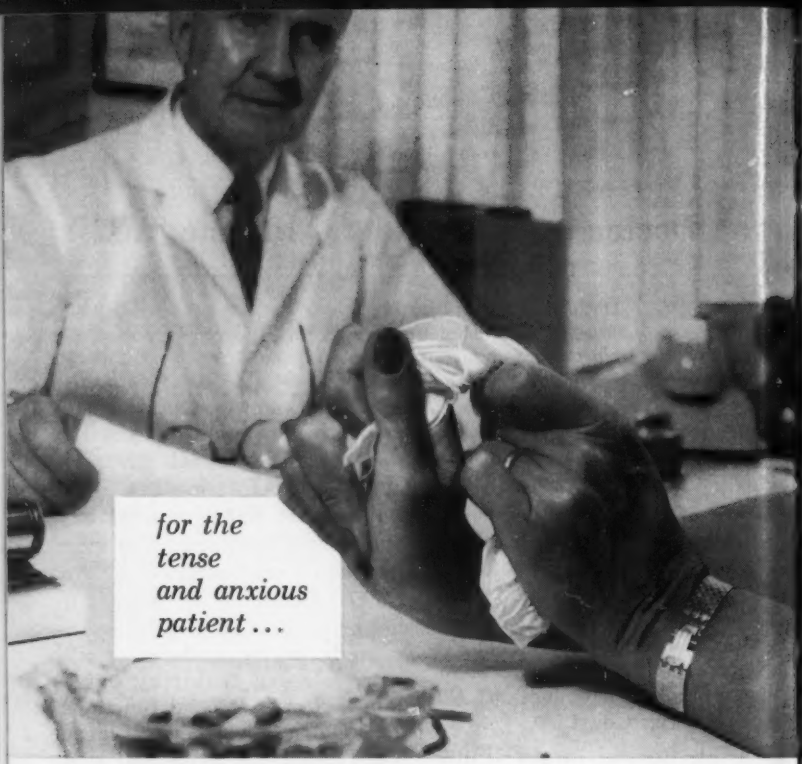
The Doctor and His Federal Income Tax

Prepared monthly for the readers of Clinical Medicine by the J. K. Lasser Tax Institute, Larchmont, New York

►*Medical officer's entertainment expenses not deductible business expenses*◄

Cost of entertaining associates is a nondeductible personal expense. The deduction is allowed only when expenses are proven to be necessary to your profession. Does an Air Force colonel's expenses of entertaining associates qualify for deduction? No, says the Tax Court.

A Lt. Colonel in the United States Air Force, on active duty as Division and Base Surgeon, claimed deductions of $1,098 and $466 for two years as expenses incurred entertaining wives of other doctors, hospital department heads, visiting medical inspection teams, chaplains and staff members, and in attending parties for and with his associates. He presented detailed records as to each item claimed. They were generally for club dues, food and drink, and child-care fees. The Treasury disallowed the deduction, determining the expenses personal. Although at the trial before the Tax Court the Colonel failed to offer any evidence of requirement or even custom on entertainment by Air Force officers, he did present in his brief excerpts from Government books for guidance of officers, advising that they entertain and attend social functions. The Court nevertheless affirms the Treasury. It holds that even if entertaining is customary in the Air Force, there is no proof that it is necessary. Entertaining one's associates and child-care expenses are, except under special circumstances, personal expenses and presumptively nondeductible. Only clear and detailed evidence as to each instance that the expense item is different from or in excess of that made for a taxpayer's personal purposes can overcome this presumption. The Lt. Colonel failed to overcome such pre-



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sumption here.

►*Travel expenses deductible only in year paid*◄

Most taxpayers report their income on a cash basis. As such, they can deduct expenses only in the year they are paid. Case in point: A designer went to Europe to find new style ideas in November, 1956. He returned on January 5, 1957. His travel expenses were $1,450, and this amount he claimed deductible on his 1957 return. Only $80 of the cost of the trip was actually spent in 1957. His deduction in 1957 was limited to this $80. $1,370 of the claimed deduction was disallowed as having been paid in 1956.

►*Losses from sideline enterprises*◄

You can be in more than one profession or business. Suppose that your expenses in a sideline business exceed your income from it. Can you have a business loss deduction? Whether you can deduct the loss depends upon whether the sideline is viewed as a hobby or a business. That substantial losses rather than net profit results does not prevent the enterprise from being viewed as a business. Take Leonard Sasso's case. His business was coal mining. For over 40 years he used bird dogs for hunting and in field trials. At the trials he attended he asked various trainers about the prospects of profits from raising bird dogs. They all told him the possibilities were good provided he could get dogs which would produce a good strain. He bought a pair of dogs for $1,250 to start with, and in seven years had 55 or 60 dogs, raised and trained by a trainer in Maryland. After losing several dogs through illness, he brought the dogs to a farm owned in Pennsylvania, originally bought for strip-mining coal. He converted one of the buildings to kennel use, employed help, installed cables and other equipment for raising and training the dogs, visited the farm several times a week, hunted with the dogs and trained younger ones himself. He kept records of all kennel operations but registered only those dogs good enough to enter field trials. In 1957 he had a loss of $6,782 from the kennel. This he deducted as a business loss. The Treasury disallowed it, saying this is a hobby loss. The Tax Court disagrees, and allows the loss as a business deduction. On the evidence, the operation of this kennel is for tax purposes a business, notwithstanding the losses.

►*Deducting costs of board and lodging on convalescence trip*◄

The Internal Revenue Code expressly allows a deduction for transportation costs (plane, boat,

or train fares) of a convalescence trip taken by a taxpayer for medical reasons. There is, however, a conflict of opinion on the deductibility of the costs incurred for board and lodging during such trip. The Treasury and Tax Court disallow such costs. The 3rd Circuit Court of Appeals allowed a deduction in the *Bilder* case. The 2nd Circuit upholds the Treasury and Tax Court in the case of *Max Carasso*. The facts in both cases are similar. Carasso, a New York resident, underwent two serious emergency stomach operations and his doctor recommended a trip to Bermuda when a condition of weakness persisted. He could not go unattended, so his wife accompanied him on a 9 day trip. On his tax return, he deducted fare, hotel lodging and meals for both. Only fares are allowed as deductible. Bilder, a New Jersey resident, sustained a series of heart attacks and was advised by his doctor to spend the winter in a warmer climate. He went to Florida, accompanied by his wife and young child, and rented a winter apartment. The Court held the rent and fares deductible.

The opposing conclusions flow from conflicting interpretations of the Code and Congressional Committee reports. During the 1954 Code revision, did Congress intend to disallow the deduction of living costs of a medical trip? The 3rd Circuit held the legislative history of the revision was not clear and so allowed the deduction of lodging costs on the grounds that the broad policy of law calls for the maintenance of a high level of public health. The Second Circuit, in reviewing the legislative history, decided that Congress' intention was clear. It intended to disallow deductions of board and lodging costs, although its wording of the Code on this point is ambiguous.

This dispute can be resolved only by Congressional action or by the Supreme Court. To date, there is no record of Carasso making an appeal to the Supreme Court, but the Treasury has applied for a review of the Bilder case.

►*Replacing professional equipment*◄

When you replace professional equipment with a new model, the dealer may offer you a trade-in allowance on the old. One disadvantage of the trade-in is that the basis for computing your depreciation allowances on the new property may be lower after the trade-in. Say the old equipment has a tax basis of $500 and a current fair market value of $1,000. The new equipment retails at $9,000. On a trade-in, the dealer bills you for $8,000 (sales price of $9,000 less trade-in allowance

of $1,000). Although you have a profit of $500 on the trade-in ($1,000 allowance less $500 tax basis), this gain is not recognized and is taxfree. However, the basis of the new equipment is $8,500 (purchase price of $9,000 less unrecognized gain of $500).

To avoid such result and to get a larger basis for depreciation, you might want to sell the old property for $1,000. True, you will have tax on the gain of $500, but this will be at the low capital gain rates, and would be more than compensated by the increased basis furnishing a depreciation deduction against ordinary income taxable at a higher rate. But the Treasury rules that a separate sale of the old equipment to the same dealer who sells you the new equipment will be disregarded. The sale to—and the purchase from—the same dealer are not independent transactions. Your purchase of new equipment is contingent upon the dealer taking in the old equipment and granting you an allowance equal at least to fair market value. Moreover, the dealer's acceptance of the old equipment depends upon your purchase of the new equipment from him. Under these circumstances, the transfer of the old property to the dealer, whether in form of sale or trade-in, is a single transaction. It constitutes a taxfree exchange, reducing your basis of depreciation on the new property even though you make separate contracts and treat the sale and purchase as unrelated deals for purposes of record keeping.

►*No depreciation allowed on sublease of cooperative apartment*◄

The Treasury has issued a ruling that no depreciation deduction will be allowed to a taxpayer who sub-lets his cooperative apartment for rental income rather than living in it himself. While this ruling addressed itself to an individual who sub-let his apartment to another, it will undoubtedly be applied to the doctor or dentist who buys a cooperative apartment he uses in part for his office. This is the Treasury reasoning in denying depreciation deductions to the owner of the apartment:

When a taxpayer invests in a cooperative apartment corporation he buys the right to occupy an apartment and gets a tax cost for his stock. His purchase price is allocable solely to the stock he acquires. No part of it is allocable as a tax cost attributable to his right to occupy an apartment. A specific provision in the tax laws allows the stockholder in a cooperative to have a deduction for his proportionate share of the real estate taxes and interest payments of the corporation, but he does not get any tax benefits over those given to stockholders

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With Alvodine, respiratory and circulatory depression are rare; nausea and vomiting are uncommon. Alvodine does not cause constipation.

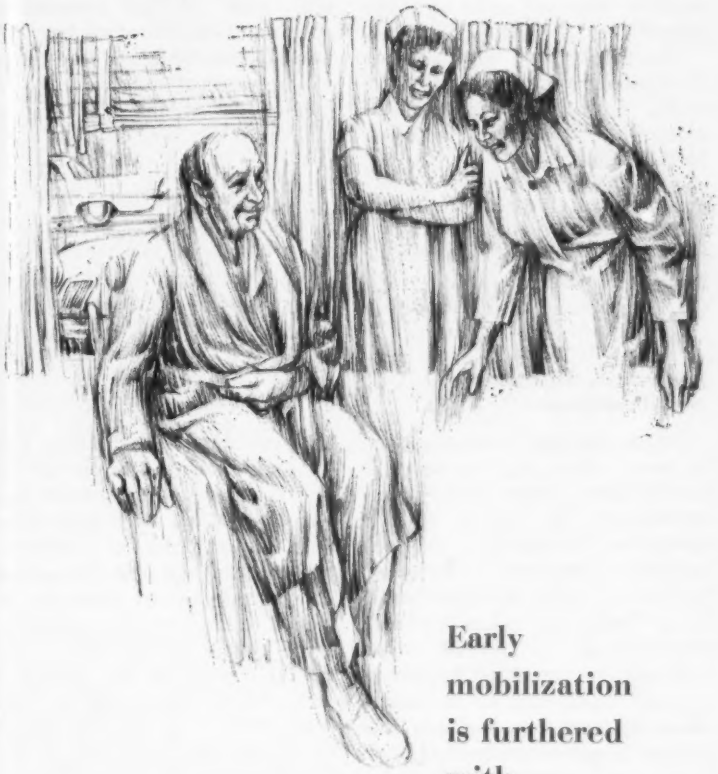
Alvodine ampuls of 1 cc. contain 20 mg. Usual adult dose: from 0.5 to 1 cc. by subcutaneous or intramuscular injection every four hours as needed. Also available in scored tablets of 50 mg. for oral administration. *Narcotic blank required.*

*deCiutiis, V. L.: Evaluation of Alvodine: a new narcotic analgesic, a double blind study, *Current Res. Anesth. & Analg.* 40:174, March-April, 1961.

Alvodine (brand of piminodine ethanesulfonate), trademark reg. U.S. Pat. Off.

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in other corporations. So conversion of his apartment to income-producing use by subletting it to another does not yield him any depreciation deduction.

The doctor who buys a home for residence purposes gets ownership and a tax cost for his home. If he uses part of his home for an office, part of his tax cost can be allocated to the business use of the home. This gives him a tax cost for the part used for his office, and this part of the cost is depreciable. But the doctor who uses part of his cooperative apartment for his office has only bought stock with his investment in the corporation. He cannot allocate any of the cost of this stock to his office. Without a tax cost for the office part of the apartment, he has no basis for depreciation.◀

Prostatitis: Diagnosis and Treatment

The acute form is accompanied by fever, chills, and malaise followed later, after urethral involvement, by more specific symptoms consisting of extreme urinary frequency, urgency, burning, dribbling, and hematuria. Treatment consists of bed rest, during the febrile stage, with administration of antipyretics and analgesics as indicated. Heat, a bland diet, and administration of sulfonamides and antibiotics are important in the treatment of the acute phase and should be continued for 7 to 10 days.

The symptoms of chronic prostatitis may be severe or lacking entirely. Urinary symptoms consisting of frequency, urgency, and burning on urination with an early morning discharge are characteristic. The patient may complain of low back or perineal pain, loss of libido or impotency, and general malaise. Treatment consists of general measures designed to improve the overall hygiene of the patient and emptying the prostate by means of prostatic massage once or twice weekly for 6 to 8 weeks. A sulfonamide may be given for 7 to 10 days after the patient first reports for treatment. Patients with associated prostatic calculi may require transurethral resection or retropubic or perineal prostatectomy for relief.

Ware, E. W., Jr., *Texas J. Med.*, 57:150-153, 1961.

►Sinutab with Codeine Tablets *(Warner-Chilcott)*

Each tablet contains 150 mg. acetaminophen, 150 mg. acetophenetidin, 25 mg. phenylpropanolamine hydrochloride, 22 mg. phenyltoloxamine citrate and 15 mg. codeine phosphate. *Indications:* Relief of severe and persistent headaches associated with allergic or vasomotor rhinitis, sinusitis, and tension states. *Dosage:* Two tablets taken initially, followed by one to two tablets every four hours. *Supplied:* In bottles containing 24 tablets.

►Reactrol Tablets *(Tailby-Nason)*

Each tablet contains 20 mg. of chemizole hydrochloride. *Indications:* For symptomatic relief in such conditions as allergic and vasomotor rhinitis, allergic asthma, conjunctivitis and pharyngitis, hay fever, allergic and other dermatoses, hives, pruritus ani and vulvae. *Dosage:* Adults, two to four tablets daily in divided doses. Children, according to age. *Supplied:* In bottles containing 60 tablets.

►Vi-Penta Zestabs *(Roche)*

Chewable multivitamin tablets. Each tab contains 11 vitamins which provide full, balanced vitamin protection when given daily. *Indications:* Particularly useful for growing children and active youths . Also convenient for adults who do not like to swallow tablets. *Dosage:* Recommended dose is one tab daily. *Supplied:* In five fruit flavors, each in a different color, bottles of 30 and 100.

►Fungizone Lotion *(Squibb)*

Formulated in 3% strength of amphotericin B in an aqueous vehicle. *Indications:* Cutaneous and mucocutaneous monilial infections responsive to topical treatment. *Dosage:* For topical use. *Supplied:* In 30 cc. plastic squeeze bottles.

►Paladac with Minerals Tablets *(Parke, Davis)*

Chewable multivitamin-mineral tablets. *Indications:* As a dietary supplement when multiple vitamins-minerals are required. *Dosage:* To be individualized. *Supplied:* In bottles containing 30 or 100 tablets.

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to help calm emotional digestive stress due to anxiety and tension.

CELLULASE . . .
to increase digestive efficiency where incomplete digestion is due to enzyme deficiency.

Each KANUMODIC triple timed-release tablet contains: pentobarbital (Warning: May be habit-forming), 8 mg.; methscopolamine nitrate, 2 mg.; cellulase (Present as Dorase, Dorsey's standardized cellulase), 9.14 mg.; Pepsin, N.F., 150 mg.; Glutamic acid hydrochloride, 200 mg.; Ox bile extract, 100 mg.; Pancreatin, N.F., 500 mg. *Dosage:* One or two tablets, swallowed whole, with each meal.

Supply: Bottles of 50 tablets. Rx only.

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►Gestest Tablets *(Squibb)*

Each test tablet supplies 2.5 mg. norethindrone acetate and 0.05 mg. ethinyl estradiol. *Indications:* Pregnancy diagnosis. *Dosage:* Four tablets are taken over a period of two days. Basis of test is the continuous production of progestogen and estrogen during pregnancy. When these hormones are being produced, bleeding does not occur when the progestational-estrogenic drug combination is stopped. But when these hormones are not being produced (in the non-pregnant woman) withdrawal of the drug combination results in bleeding. Thus, failure to bleed upon withdrawal of the drug is a positive test for pregnancy, while withdrawal bleeding is a negative test. *Supplied:* In package containing four tests of four tablets each.

►Chymar Aqueous 1 cc. Vials *(Armour)*

New dosage size. New size is the equivalent of one dose of chymotrypsin. *Indications:* To suppress inflammation, promote absorption of blood and lymph extravasates in the tissues, reduce edema, and relieve pain in a wide variety of disorders. *Dosage:* To be individualized. *Supplied:* The 1 cc. vials are available in lots of 10, 20, 50 and 100.

►Mylanta Tablets and Liquid *(Stuart)*

Each tablet contains 200 mg. magnesium hydroxide, aluminum hydroxide equivalent to 200 mg. of dried gel USP, and 20 mg. activated methoxylpolysiloxane. Also available as liquid. Each 5 cc. teaspoonful contains magnesium hydroxide 200 mg., aluminum hydroxide equivalent to dried gel USP 200 mg., and methylpolysiloxane (activated) 20 mg. *Indications:* To relieve flatulence and provide demulcent and acid-neutralizing action. *Dosage:* One or two tablets, or one or two teaspoonfuls as required, administered between meals and at bedtime. *Supplied:* In boxes containing 100 tablets, and 12-ounce bottles.

►Cosmedicake *(Kay)*

Medicated dehydrated lotion in cake form. Contains benzalkonium chloride, salicylic acid and hexachlorophene in a smooth base. *Indications:* Adjunctive treatment in the management of acne vulgaris, acne rosacea, facial seborrhea and other nonspecific facial skin conditions in the female. *Dosage:* Apply night and morning with a moist sponge. *Supplied:* Cake form, available in four skin-matching shades .



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►Aids to Physiology

by E. T. Waters, Ph.D., D.Sc., Senior Lecturer in Physiology, University of Wales, Cardiff; Formerly Associate Professor of Physiology, University of Toronto. Fifth edition. Bailliere, Tindall and Cox, London. The Williams & Wilkins Co., Baltimore. 1961. $3.00

This little book will serve well to bring physicians' knowledge of physiology up to date, and as a text for high school students.

►Management of Obstetric Difficulties

revised by J. Robert Willson, M.D., Professor of Obstetrics and Gynecology, Temple University School of Medicine; with 323 text illustrations and one color plate. Sixth Edition. The C. V. Mosby Company, St. Louis. 1961. $16.50

This is a book to serve as a ready reference for practitioners of obstetrics and those in training for such practice, rather than as a basic text for medical students. The author tells us that he has tried to make this edition even more practical and useful than previous editions. The book is comprehensive, covers the whole of the subject, from infertility to the newborn infant. A clear, explicit text, supplemented with excellent illustrations, makes a first-rate book.

►A Manual of Cutaneous Medicine

by Donald M. Pillsbury, D.Sc. (Hon.), M.D., F.A.C.P., Professor and Chairman of Department of Dermatology, University of Pennsylvania School of Medicine; Walter B. Shelley, M.D., Ph.D., F.A.C.P., Professor of Dermatology, University of Pennsylvania School of Medicine; and Albert M. Kligman, M.D., Ph.D., Professor of Dermatology, University of Pennsylvania School of Medicine. W. B. Saunders Company, Philadelphia and London. 1961. $9.50

This reviewer is one of those doctors of the old school who have little hesitancy in giving approving testimony as to any book emanating from the University of Pennsylvania School of Medicine. It is all sound stuff, none of it just sound.

►Henry E. Sigerist on the History of Medicine

edited and with an introduction by Felix Marti-Ibanez, M.D., Professor and Chairman, Department of the History of Medicine, New York Medical College, Flower and Fifth Avenue Hospitals, New York. Foreword by John F. Fulton, M.D., Department of the History of Medicine. M.D. Publications, Inc., New York. 1960. $6.75

In lieu of a review, a few sentences from that accomplished scholar in medicine, The Editor, are quoted:

"This book is, by the power of the enlightening words it contains, an immortal mirror of the luminous mind of a great medical historian.

Sigerist's individualism was what made possible the legacy he left us, which will breathe with life as long as man remains man.

Sigerist's work, his articles and lectures, lead by paths full of beauty and precision to all the problems of the history of medicine.

In the book we present a selection of Sigerist's works as made by the author himself at my request some years ago, when I suggested to him the idea of publishing an anthology, together with some pieces selected by myself as the best examples of his work.

Prior to Sigerist, medical historiography, the study of the activities of medicine, suffered from being neither historical nor medical enough."

►Hematology in Practice

by Steven O. Schwartz, M.D., Professor of Medicine, Northwestern University Medical School; Wilson H. Hartz, Jr., M.D., Instructor in Medicine, Northwestern University Medical School. Section on Hemostasis by Joseph H. Robbins, M.D., Instructor in Medicine, Northwestern University Medical School. The Blakiston Division, McGraw-Hill Book Company, Inc., New York. Toronto. London. 1961. $14.00

The choice of the title is significant. The text justifies the implied promise that the work deals with the subject in the way that will be most useful to the clinician. The note in the preface that the book is based for the most part on personal experience and therefore may seem at times somewhat arbitrary recommends the book to this reviewer. One buys a book to learn what the author knows or thinks on the subject; if he desires to know what everyone in the field knows and thinks on any subject he will buy or consult an encyclopedia.

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►Progress in the Treatment of Fractures and Dislocations, 1950-1960

by Thomas B. Quigley, M.D., Assistant Clinical Professor of Surgery, Harvard Medical School; and Henry Banks, M.D., Clinical Associate in Orthopedic Surgery, Harvard Medical School. W. B. Saunders Company, Philadelphia and London. 1960. $2.50

The author's views of the application of studies published during the past decade to the conduct and active service in a teaching hospital are presented. No two patients and no two injuries are exactly the same and many paths lead to the same goal of restoration of the patient to economic self-sufficiency, with least risk to life or limb. The more the doctor knows of the studies of others faced with the same problems, the better treated his patients will be.

►Bedside Medicine

by I. Snapper, M.D., Director of Medicine and Medical Education, Beth-El Hospital, Brooklyn, N.Y. Grune & Stratton, New York and London. 1960. $14.50

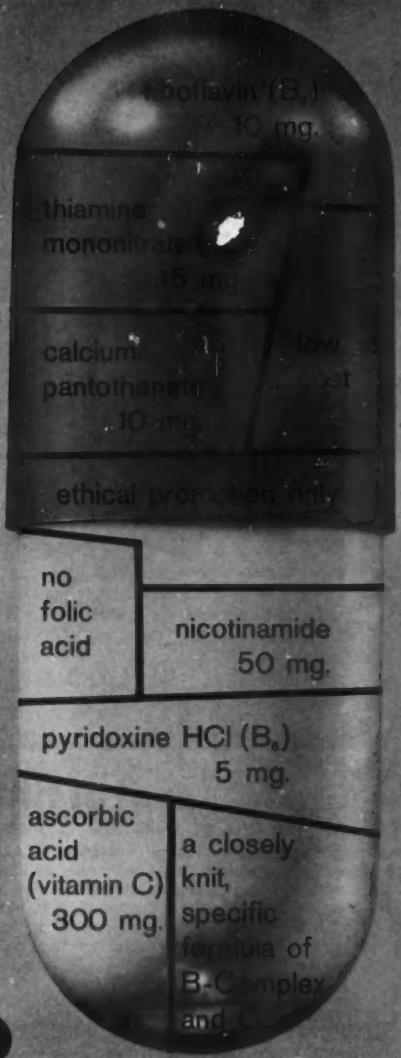
This is a record of the medical knowledge the author acquired by experience, in combination with the modicum of national sciences necessary to practice good medicine. One may gain an idea of the contents of the book from this sentence in the preface: "I should like to mention my teacher, who always said: 'I would need 3 full-time secretaries to contradict all the incorrect statements I read every day in the medical journals.' " This reviewer, from his 35 years as an editor of medical journals, is inclined very favorably to the book by that statement on the part of the author.

►Biochemical Values in Clinical Medicine: The Results Following Pathological or Physiological Change

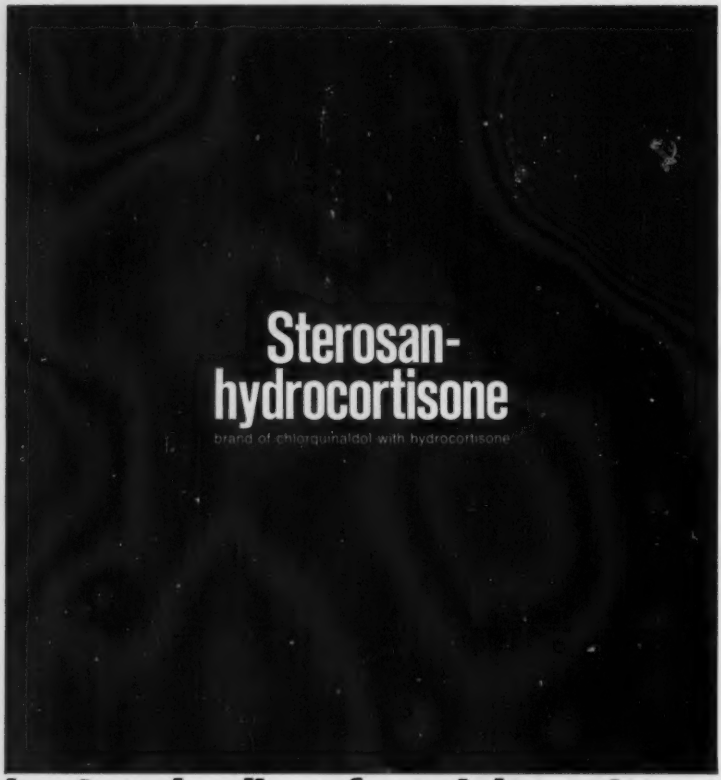
by Robert Duncan Eastham, B.A. (Cantab.), M.D. (Cantab.), D.C.P., Dipl. Path. Consultant Pathologist to the Frenchay/ Cossham Group of Hospitals, Bristol. The Williams & Wilkins Co., Baltimore. 1960. $3.75

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References: (1) Lubowe, I. I.: Antibiot. Med. & Clin. Therap. 4:81, 1957. (2) Fox, H. H.: Antibiot. Med. 6:85, 1959. (3) Murphy, J. C.: Rocky Mountain M. J. 55:53, 1958. (4) Pace, B. F.: Med. Rec. & Ann. 51:370, 1957.

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Clinical Medicine

DECEMBER, 1961 *Vol. 8 Number 12*

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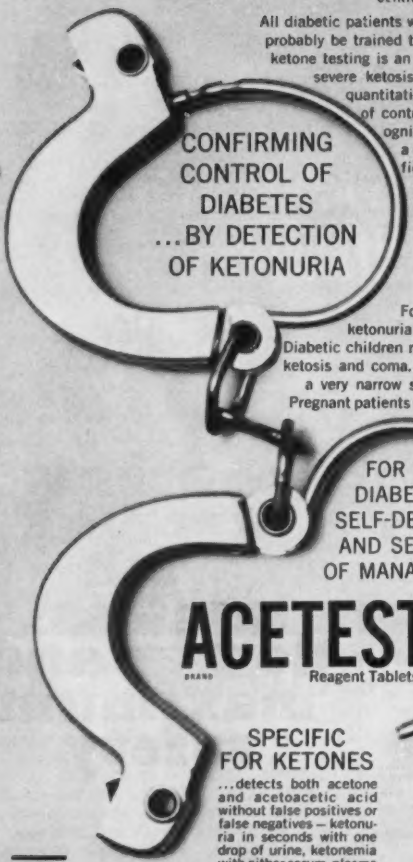
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All diabetic patients with moderate to severe diabetes should probably be trained to test frequently for ketonuria. Routine ketone testing is an important adjunct in the prevention of severe ketosis and diabetic coma, just as frequent quantitation of urine-sugar indicates the degree of control. Ketonuria is not only the first recognizable sign of ketosis,[1] but also may be a more important warning of insulin-insufficiency than the degree of glucosuria. All diabetic patients can be subject to ketosis: after errors of diet, exercise or medication; in the presence of certain hepatic and renal disorders; and as a metabolic consequence of severe infection or stress.

For certain diabetic patients, testing for ketonuria may be a vital part of daily routine. Diabetic children may be prone to precipitous episodes of ketosis and coma. Adults with severe diabetes may have a very narrow safety zone between control and coma. Pregnant patients with diabetes may easily become ketotic. The patient on oral hypoglycemic therapy may experience drug failure, need insulin temporarily or develop unwise habits of diet or medication—ample justification for his self-defense with routine testing for ketonuria.

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(1) Duncan, G. G.: Diseases of Metabolism, ed. 4, Philadelphia, Saunders, 1959, p. 795.
(2) Lee C. T., and Duncan G. G.: Metabolism 5:144, 1956.

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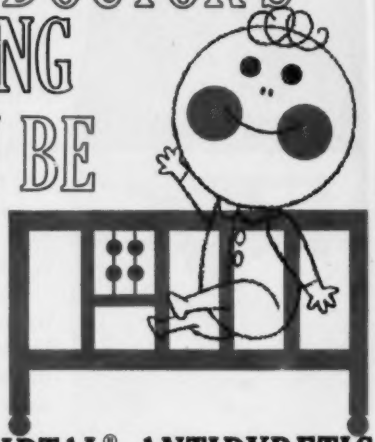
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Excerpts from a 2-year study of 87 patients

USE OF DEPROL IN THE OFFICE TREATMENT OF DEPRESSION*

"Eighty-seven patients were studied during a period of over 2 years. All were psychoneurotic, and all were seen in private psychiatric practice. Although diagnoses differed, the most prominent symptom in each case was severe depression... Patients ranged in age from 16 to 70 years; the greater portion were 20 to 40 years old.

"The usual starting dosage of Deprol† was 1 tablet 4 times a day ... If necessary, this dosage was increased to 6 tablets per day, and then to 8."

Results

"All except 2 of the 87 patients treated with Deprol were definitely helped by this medication.

"Deprol was found most useful in patients with pronounced depressions characterized by apathy, withdrawal, and inability to perform. Such patients were relieved of their oppressive despondency and crying spells and became accessible to psychotherapy. They became more hopeful and more willing and able to expend effort to help themselves. They were able to sleep well, to enjoy their food again, to concentrate better, to make decisions and to return to normal activity...

"Unlike most other drugs used for depression, [Deprol] is also effective in controlling a wide spectrum of associated symptoms, particularly anxiety, tension, sleep disturbances, and psychosomatic complaints. Deprol does not depress appetite but permits its normal return as the patient improves. It is not a euphoriant; rather, patients taking the drug experience a return to a stable and normal mood."

Side Effects and Toxicity

During the two years of this study "...no side-effects were observed. Two patients who attempted suicide by ingesting, respectively, 40 and 30 tablets of Deprol experienced prolonged sleep with slight, transient fall in blood pressure, but they recovered without treatment and without sequelae."

Conclusion

"Deprol marks a definite step forward in the safe and effective treatment of depression."

*Ruehwarger, A.: M. Ann. District of Columbia *28*:438, Aug. 1959.
†Supplied by WALLACE LABORATORIES, Cranbury, N. J.

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Dosage: Usual starting dose is 1 tablet q.i.d. When necessary, this may be increased gradually up to 3 tablets q.i.d. With establishment of relief, the dose may be reduced gradually to maintenance levels. ***Composition:*** 1 mg. 2-diethylaminoethyl benzilate hydrochloride (benactyzine HCl) and 400 mg. meprobamate. ***Supplied:*** Bottles of 50 light-pink, scored tablets. Write for literature and samples.

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her food tastes better
(thanks to salt liberalization)





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✓ from mental confusion to the right frame of mind



✓ continuous, 24-hour cerebral oxygenation for the aging patient relieves mental confusion — a frequent problem in patients after forty — due to presenile changes in the vasculature of the brain. Notable benefit usually is seen within one to three weeks of therapy.

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Each TEMPOTROL contains: Pentylenetetrazol, 300 mg.; and Nicotinic Acid, 150 mg.

Indications: Respiratory and circulatory stimulant for the aged and debilitated with symptoms of mental confusion, depression, anxiety or arteriosclerotic psychosis.

Contraindications: None known in recommended dosage.

Dosage: One GERONIAZOL TT* tablet, b.i.d.

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*TEMPOTROL® (Time Controlled Therapy)

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ONE MEDICATION RELIEVES PAIN
INHIBITS EROSION, PROMOTES
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ESTOMUL—Liquid and Tablets

RESULTS

- RELIEVES SPASM AND REDUCES MOTILITY
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ACTIONS

- ANTICHOLINERGIC
  orphenadrine hydrochloride
  ANTISPASMODIC

  ANTISECRETORY
- TOPICAL ANESTHETIC
  orphenadrine hydrochloride
- ANTACID
  aluminum hydroxide-magnesium carbonate co-precipitate
- DEMULCENT
  bismuth aluminate
- ANTIPEPTIC
  bismuth aluminate



ALL DESIRABLE ACTIONS IN ONE MEDICATION

Only ONE prescription to write

COMPOSITION

Each ESTOMUL TABLET contains:

Orphenadrine HCl		25 mg.
(2-dimethylaminomethyl-2-methylbenzhydryl ether HCl)		
Bismuth aluminate		237 mg.
Magnesium oxide		87 mg.
Aluminum hydroxide / Magnesium carbonate	Co-Precipitate	300 mg.

Each tablespoon (15 cc) ESTOMUL LIQUID contains:

Orphenadrine HCl		25 mg.
(2-dimethylaminomethyl-2-methylbenzhydryl ether HCl)		
Bismuth aluminate		50 mg.
Aluminum hydroxide / Magnesium carbonate	Co-Precipitate	185 mg.

INDICATIONS:

Peptic Ulcer—		Gastritis	Congenital shortening of esophagus
Duodenal	Marginal	Alcoholic gastritis	Chalasia of esophagus
Gastric	Esophageal	Gastroesophageal reflux	Hiatus hernia at esophagus
Hyperacidity and dyspepsia		Esophagitis (without stricture)	Cardiospasm
Heartburn		Irritable bowel syndrome	Functional pylorospasm

DOSAGE:

LIQUID and TABLETS: 1 or 2 tablespoons or 1 or 2 tablets three times daily depending on severity of involvement.

SIDE ACTIONS:

Doses in excess of 6 tablets or 6 tablespoons daily may produce minor side actions such as dryness of the mouth or blurring of vision.

CONTRAINDICATIONS:

ESTOMUL should not be used in patients with organic pyloric obstruction or achalasia of esophagus. Use with caution in patients with renal impairment or insufficiency. Adverse cardiovascular effects for anticholinergic drugs are glaucoma or prostatic hypertrophy which may lead to urinary bladder obstruction.

AVAILABILITY:

Tablets — Bottles of 100

Liquid — Bottle of 12 fluid oz.

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*Traylor, J B., and Torpin, R.: Am. J. Obst. & Gynec. 61:71-74 (Jan.) 1951.

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controls inflammation and edema in respiratory tract disorders[1-4]

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1. Clinical reports to the Medical Department, Armour Pharmaceutical Company, 1960. 2. Billow, B. W., *et al.:* Southwestern Med. *41*:286, 1960. 3. Taub, S. J.: Clin. Med. *7*:2575, 1960. 4. Teitel, L. H., *et al.:* Indust. Med. *29*:150, 1960.

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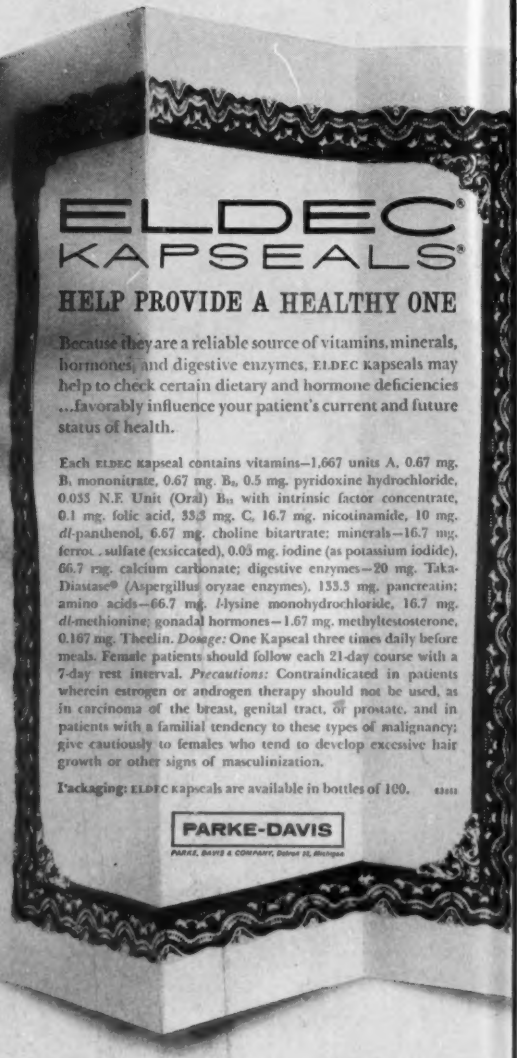
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the first comprehensive regulator of female cyclic function

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THE BASIC ACTION

ENOVID closely mimics the balanced progestational-estrogenic action of the functioning corpus luteum. This action is readily understood by a simple comparison. In effect, ENOVID *induces a physiologic state which simulates early pregnancy.* Output of pituitary gonadotropin is inhibited and ovulation suspended; a pseudodecidual endometrium ("pseudo" because neither placenta nor fetus is present) is induced and maintained.

Further, during ENOVID therapy, certain symptoms typical of normal pregnancy may be noted in some patients, such as nausea—which is usually mild and disappears spontaneously within a few days—breast engorgement, some degree of fluid retention, and often a marked sense of well-being. There is no androgenicity. ENOVID *is as safe as the normal state of pregnancy.*

THE BASIC APPLICATIONS

1. Correction of menstrual dysfunction. *Emergency* treatment of severe dysfunctional uterine bleeding is promptly effective following the administration of ENOVID in larger doses. *Cyclic* therapy with ENOVID controls less severe dysfunctional uterine bleeding. In amenorrhea *cyclic* therapy with ENOVID establishes a pseudodecidual endometrium providing the patient has endometrial tissue capable of response.

2. Ovulation suppression (to suspend fertility). For this purpose ENOVID is administered *cyclically,* beginning on day 5 through day 24 (20 daily doses). The ovary remains in a state of physiologic rest and there is no impairment of subsequent fertility. When ENOVID is prescribed for this *cyclic* use over prolonged periods, a total of twenty-four months should not be exceeded until continuing studies indicate that its present lack of undesired actions continues for even longer intervals. Such studies are now in their seventh year and will regularly be reviewed for extension of the present recommendation.

3. Adjustment of the menses for reasons of health or other special circumstances considered valid in the opinion of the physician. For this purpose ENOVID may be started at any time in the cycle up to one week before expected menstruation. Upon discontinuation, normal cyclic bleeding occurs in three to five days.

4. Endometriosis. *Continuous* therapy with ENOVID corrects endometriosis by producing a pseudodecidual reaction with subsequent absorption of aberrant endometrial tissue.

5. Threatened and habitual abortion. ENOVID should be used as *emergency* treatment in *threatened abortion. Continuous* therapy with ENOVID in *habitual abortion* provides balanced hormone support of the endometrium, permitting continuation of pregnancy when endogenous support is otherwise inadequate.

6. Endocrine infertility. ENOVID has been used successfully in *cyclic* therapy of endocrine infertility, promoting subsequent pregnancy through a probable "rebound" phenomenon.

THE BASIC DOSAGE

Basic dosage of ENOVID is 5 mg. daily in *cyclic* therapy, beginning on day 5 through day 24 (20 daily doses). Higher doses may be used with complete safety to prevent or control occasional "spotting" or breakthrough bleeding during ENOVID therapy, or for rapid effect in the *emergency* treatment of dysfunctional uterine bleeding and threatened abortion. ENOVID is available in tablets of 5 mg. and 10 mg. Literature and references, covering more than six years of intensive clinical study, available on request.

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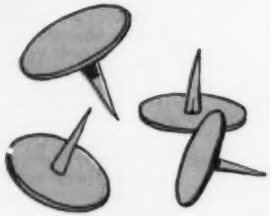
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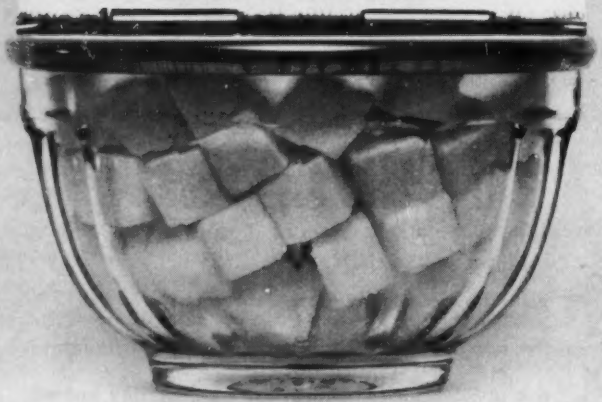
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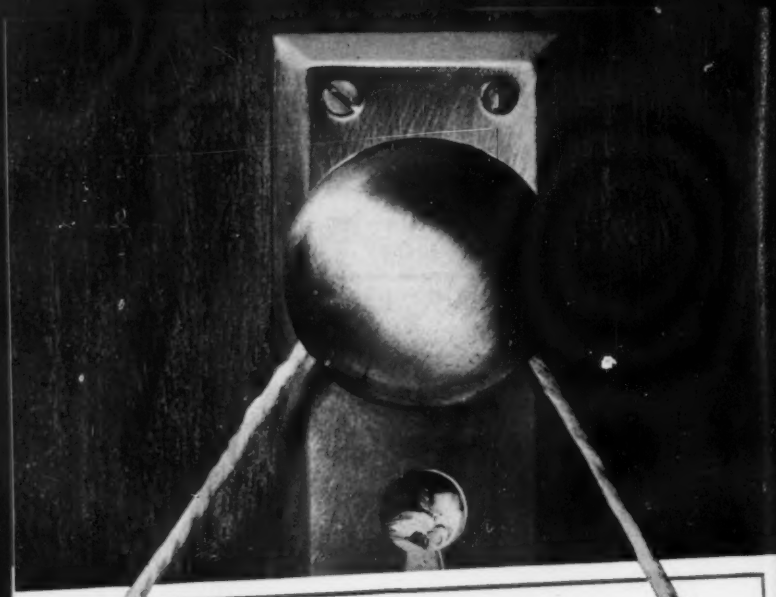
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Clinical and Pharmacological Reports 1. Berger, F.M., Douglas, J.F., Kletzkin, M., Ludwig, B.J., and Margolin, S.: The Pharmacological Properties of 2-methyl-2-sec-butyl-1, 3 propane diol dicarbamate (mebutamate, W-583), a New Centrally Acting Blood Pressure Lowering Agent. J. Pharmacology. In press, 1961. 2. Berger, F.M., and Margolin, S.: A Centrally Acting Blood Pressure Lowering Agent (W-583). Fed. Proc. *20:* 113 1961. 3. Bohensky, F.S.:Mebutamate, a New Drug for the Treatment of Hypertension, N. Y. State J. Med. In press, 1961. 4. Diamond, S. and Schwartz, M.: Blood Volume in Uncomplicated Essential Hypertension. Modern Med. In press, 1961. 5. Douglas, J.F., Ludwig, B.J., Ginsberg, T. and Berger, F.M.: Studies on W-583 Metabolism. Fed. Proc. *20:* 113 1961. 6. Duarte, C., Brest, A.N., Kedama, R., Naso, F., and Moyor, J.H., Observation on the Antihypertensive Effectiveness of a new Propanediol Dicarbamate (W-583). Curr. Therap. Res. *2:* 148-52 May, 1960. 7. DuChez, J.W., Scientific Exhibit, American Medical Association, New York, 1961. 8. Holloman, J.L.S., Jr.: Treatment of Hypertensive Patients with Mebutamate, a new Antihypertensive drug—A Preliminary Report. J. Nat. Med. Assoc. In press, 1961. 9. Kletzkin, M., and Berger, F.M.: A centrally Acting Antipressor Agent. Fed. Proc. *20:* 113 1961. 10. Leslie, C.H.: The Efficacy of Mebutamate, A New Antihypertensive Drug, in the Treatment of Refractory Geriatric Hypertensive Patients—A Preliminary Report. J. Am. Geriatrics Soc. In press, 1961. 11. Mulinos, M.G., Scientific Exhibit, Amer. College of Cardiology, New York, May, 1961. 12. Mulinos, M.G., Saltefors, S., Boyd, L.J., and Cronk, G.A.: Human Pharmacology Studies with W-583. Fed. Proc. *20:* 113 1961. 13. Shubin, H., Scientific Exhibit, American College of Cardiology, New York, 1961. 14. Turek, L.H.: Clinical Evaluation of Mebutamate, an Antihypertensive Agent: Preliminary Report. Clinical Med. *8:* 7 1961.



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1. Meyers, G. B.: Ind. Med. & Surg. 26:3, 1957. 2. Murray, R. J.: N. Y. St. J. Med. 55:1267, 1955.

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BRIEF BASIC INFORMATION

Description: Monase is etryptamine acetate, a unique nonhydrazine compound, developed in the Research Laboratories of The Upjohn Company.

Indications: Various depressive states: psychoneurotic depressive reactions; psychiatric disorders with prominent depressive symptoms or features; transient situational personality disorders with pathological depressive features; manic-depressive reactions, depressed type; involutional psychotic reactions with depressed features; psychotic depressed reactions.

Dosage: 30 mg. daily in divided doses. Initial benefit may be observed within 2 to 3 days, but maximum results may not be apparent until after 2 or more weeks. Adjustment of dose to individual response should be effected in increments or decrements of 15 mg. daily at weekly intervals. The daily maintenance dose ranges between 15 and 45 mg. In schizophrenics, 30 mg. daily may be useful as an adjunct in activating these patients or brightening their mood.

Contraindications and Precautions: There are no known absolute contraindications to Monase therapy. However, the drug should be used with caution in schizoid or schizophrenic patients, paranoids, and in patients with intense anxiety, as it may contribute to the activation of a latent or incipient psychotic process. Patients with suicidal tendencies should be kept under careful observation during Monase therapy until such time as the self-destructive tendencies are brought under control.

Patients who are on concomitant antihypertensive therapy should be watched carefully for possible potentiation of hypotensive effects. Added caution should be employed in patients with cardiovascular disease in view of the occasional occurrence of postural hypotension, and the possibility of increased activity as a result of a feeling of increased well being.

Despite the fact that liver damage or blood dyscrasias have not been reported in patients receiving Monase, as is the case with any new drug, patients should be carefully observed for the development of these complications. Monase should probably not be used in patients with a history of liver disease or abnormal liver function tests. Also, the usual precautions should be employed in patients with impaired renal function, since it is possible that cumulative effects may occur in such patients.

Monase should be employed with caution in patients with epilepsy since the possibility exists that the epileptic state may be aggravated. Also, because of its autonomic effects, therapy with Monase, may aggravate glaucoma or may produce urinary retention. Monase must not be administered concomitantly with imipramine. In patients receiving Monase, caution should be employed in administering the following agents or related compounds in view of possible lowering of the margin of safety: meperidine, local anesthetics (procaine, cocaine, etc.), phenylephrine, amphetamine, alcohol, ether, barbiturates or histamine.

Toxicity and Side Effects: The side effects observed in patients on Monase therapy, in general, have been mild and easily managed by symptomatic therapy or dose reduction. If such side effects persist or are severe, the drug should be discontinued. Alterations in blood pressure, usually in the form of postural hypotension, or more rarely, an elevation of blood pressure, have been reported. Other side effects include allergic skin reactions and drug fever and those that appear to be dose related since they are more likely to occur when the daily dose exceeds 60 mg. These are nausea and gastrointestinal upset, headache, vertigo, palpitation, dryness of the mouth, blurred vision, over-stimulation of the central nervous system, restlessness, insomnia, paradoxical somnolence and fatigue, muscle weakness, edema, and sweating. Following sudden withdrawal of medication in patients receiving high doses for a prolonged period, there may occur a "rebound" withdrawal effect which is characterized by headache, central nervous system hyperstimulation and occasionally hallucinations.

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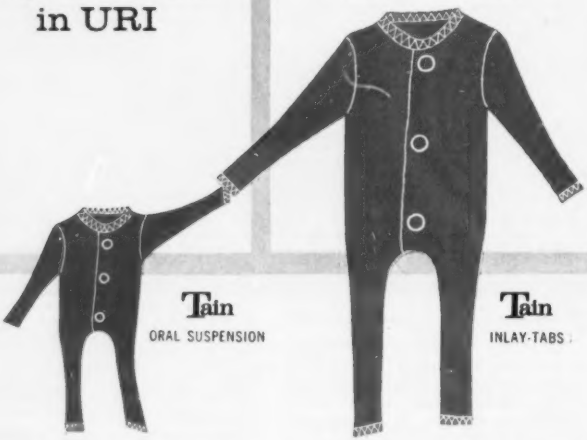
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*Carter, C. H., Pfundt, T. R., and Sehnert, K. W. Clinical Evaluation of Pediatric Dosage Form of Tain. EENT Digest. Sept., 1961.

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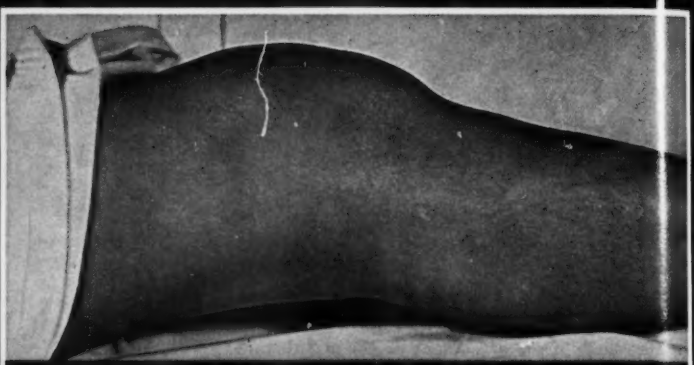
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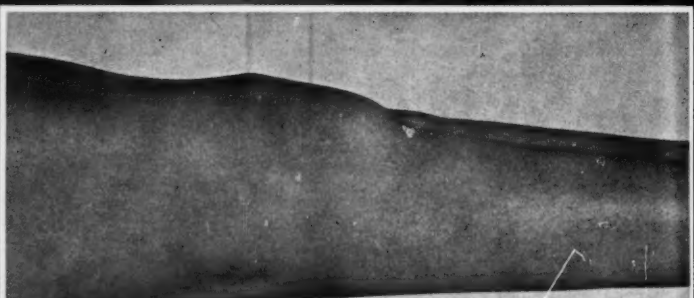
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Female, Age 45. Diagnosis: Rheumatoid Arthritis, Class III, Stage III. Onset of disease was approximately 10 years ago. During this period, patient has never been asymptomatic. Various courses of cortisone therapy afforded partial relief. Immediately prior to institution of therapy with CELESTONE there was swelling and/or tenderness over both sternoclavicular joints, in shoulders, wrists, ankles, feet and the fingers which also had spindle-shaped deformities; limitation of motion in both knees. Considerable swelling with synovitis observed in right knee; patient unable to extend it fully when lying flat. Physical examination also revealed patient to be badly undernourished; there were no other significant findings. Rx: CELESTONE Tablets, 0.6 mg., q.i.d. Photo 1 shows patient prior to therapy with CELESTONE.

Arthritic/inflammatory flare-up



Results: Within 48 hours, both subjective and objective improvement noted. Subsidence of pain began, and swelling substantially decreased. After 7 days, patient was completely asymptomatic and able to function normally in her environment. Dosage gradually reduced by weekly decrements of 0.3 mg. to a maintenance level of 0.3 mg. daily. Patient has remained asymptomatic, has gained 12 pounds and has returned to her normal weight. No side effects reported. Photo 2 shows patient after 7 days' therapy with CELESTONE. Note 50 per cent decrease in knee size.

Photographs courtesy of Abraham Cohen, M.D., Philadelphia, Pa.

Schering

An important new agent for steroid therapy: Twenty months of pre-introductory clinical trials have demonstrated that CELESTONE provides unexcelled antiarthritic and anti-inflammatory effects with significantly lower milligram dosages than those required with most other steroids. These studies have also established its "low incidence of side effects . . . [and] absence of new toxic effects . . ."[1]

Unsurpassed effectiveness in rheumatoid arthritis: In a series of 37 patients previously treated with other corticosteroids, CELESTONE was observed to produce an enhanced antiarthritic effect in over 50 per cent of the cases: "Better over-all improvement, as reflected in greater relief from pain, decreased inflammation, increased range of motion and constitutional benefits, was reported by the majority of patients in this series."[2]

In another group of patients studied, 88.8 per cent of whom were much improved or improved on CELESTONE, the authors noted that "results were not affected by either the class or the stage of rheumatoid arthritis; in fact, all but two of our Class III and Stage III patients obtained maximal improvement with betamethasone [CELESTONE]."[3] Gratifying results have been achieved with CELESTONE in a broad range of steroid-responsive disorders, from rheumatoid arthritis to bronchial asthma, allergic dermatoses, and inflammatory ocular diseases. Rapid subsidence of arthritic flare-up can usually be expected on average daily dosages of from 2 to 4 tablets. The single tablet strength (0.6 mg.) facilitates dosage schedules and proper adjustment when patients are switched from other corticosteroids.

Rapid remission with Celestone

CELESTONE "appears to satisfy the criteria for an improved corticosteroid in rheumatoid arthritis. It exerts its antirheumatic and anti-inflammatory activity at lower dosages than other steroids available for the management of this disease . . . our data indicate that therapy with this steroid is attended by a substantially lower incidence of untoward effects . . . [and] has not been shown to cause any new side effects . . ."[3]

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Cited References: 1. Frank, L.: The Place of Betamethasone in Dermatologic Practice, Paper presented at First Conference on the Clinical Application of Betamethasone — A New Corticosteroid, New York City, May 8, 1961. 2. Kammerer, W. H.: Observations on the Effects of Betamethasone in Rheumatoid Arthritis. *Ibid.* 3. Cohen, A., and Goldman, J.: Management of Rheumatoid Arthritis with a New Steroid. *Ibid.* **Additional References:** 4. Nierman, M. M.: The Use of Betamethasone in Dermatology. *Ibid.* 5. Gant, J. Q., Jr., and Gould, A. H.: Betamethasone: A Clinical Study. *Ibid.* 6. Dresner, E., and Cathcart, E. S.: The Anti-Inflammatory Activity of Betamethasone, A New Glucocorticoid Epimer. *Ibid.* 7. Cecil, R. L.: Continued Progress in Corticosteroids. *Ibid.* 8. Bedell, H.: A New Systemic Steroid in the Treatment of Allergies in Office Practice. *Ibid.* 9. Goldman, L.: Investigation of a New Steroid in Dermatology. *Ibid.* 10. Hampton, S. F.: Betamethasone — A New Steroid in Allergy: A Preliminary Report. *Ibid.* 11. Bukantz, S. C.: Observations on the Use of Betamethasone in the Intractable Asthmatic Child. *Ibid.* 12. Schwartz, E.: Clinical Evaluation of Betamethasone in Chronic Intractable Bronchial Asthma. *Ibid.* 13. Gordon, D. M.: Betamethasone — A New Corticosteroid in Ophthalmology. *Ibid.* 14. Abrahamson, I. A., Jr.: A Clinical Evaluation of Betamethasone. *Ibid.* H-397

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WITH

Diaparene® BABY PRODUCTS for simple, complete skin care

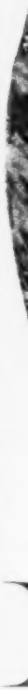
Diaper rash can best be prevented by eliminating its cause—ammonia produced by urea-splitting bacteria. Diaparene Baby Products inhibit these bacteria in the diaper and on the skin.

Diaparene Anti-bacterial Tod'l®, the soapless, sudsing skin cleanser, washes better and quicker than ordinary soap, inhibits bacteria present on the skin. And Diaparene Antiseptic Rinse destroys these organisms in the diaper. Have the mother use the rinse at home or get Diaparene-impregnated diapers from a franchised diaper service.

For added antibacterial protection against diaper rash, prickly heat, and chafing, suggest Diaparene Baby Powder or Baby Lotion.

When you do see a case of diaper rash, prescribe the Diaparene therapeutic regimen—Diaparene Anti-bacterial Ointment and Diaparene Antiseptic Rinse.

BREON Diaparene Products Division, Breon Laboratories Inc., New York 18, N. Y.

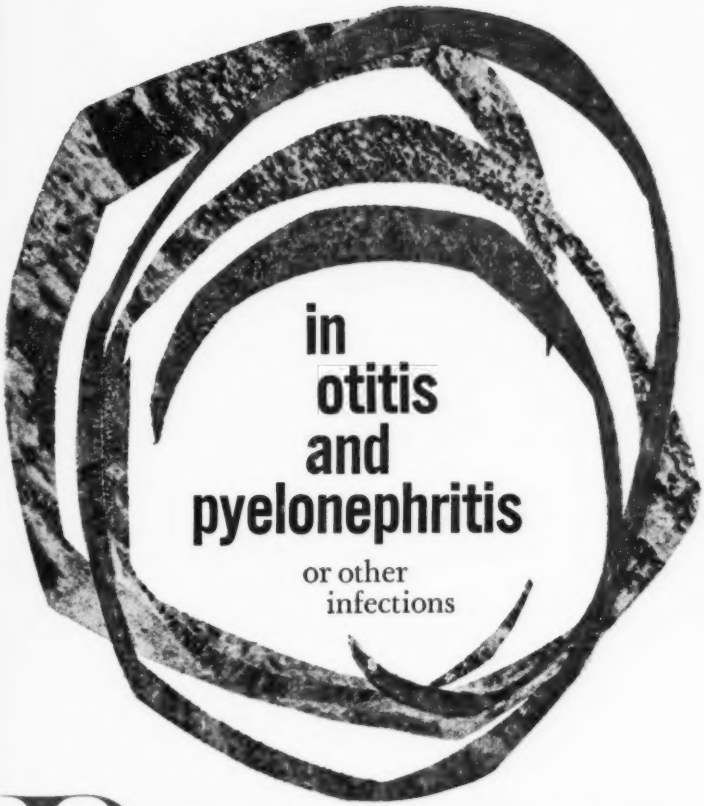


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from

LEDI



antibiotic therapy with an added measure of protection

DECLOMYCIN®

DEMETHYLCHLORTETRACYCLINE LEDERLE

against relapse– up to 6 days' activity on 4 days' dosage
against secondary infection– sustained high activity levels
against "problem" pathogens– positive broad-spectrum antibiosis

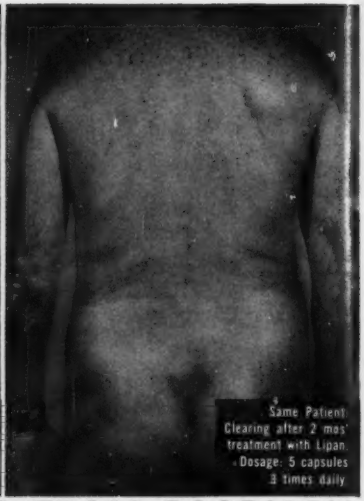
CAPSULES, 150 mg., 75 mg.; PEDIATRIC DROPS, 60 mg./cc.; SYRUP, 75 mg./5 cc.

Request complete information on indications, dosage, precautions and contraindications from your Lederle representative or write to Medical Advisory Department.

LEDERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY, Pearl River, New York



Psoriasis of 37 yrs' duration. Previous therapy produced no improvements.



Same Patient. Clearing after 2 mos' treatment with Lipan. Dosage: 5 capsules 3 times daily.

ACHIEVE FREEDOM FROM PSORIASIS W/LIPAN

Over and over again, studies have shown Lipan Improved Capsules to be orally effective therapy. Lipan will, in most cases, give a rapid clinical response. Maintenance dosage frequently keeps the patient symptom-free.

Again, in a recent study[1] on psoriatics of long standing, 37.71% showed complete remission of symptoms, 32.26% showed decided improvement, and 12.90% showed moderate or temporary improvement.

These new studies on the use of Lipan Improved Capsules have demonstrated that the clinical results are in direct proportion to adequate daily dosage.[2,3]

Effectiveness of Lipan therapy increases as dosage is increased.

Dosage: For complete *Lipanization* (saturation dosage): 2 to 4 capsules before each meal: 1 to 2 capsules before between-meal snacks.

Each Lipan Improved Capsule contains: Pancreatin – 2000 mg., Pyridoxine HCl – 3 mg.

Reprints, Samples and Literature upon request

Spirt & Co., Inc. Waterbury, Conn.

REFERENCES: 1. Schwartzschild, L.: Oral Management of Psoriasis with a Lipotropic Agent. Clin. Med., Vol. 8, No. 4, (April) 1961.
2. Combes, F. C.: Management of Psoriasis as a Metabolic Lipid Disturbance. N. Y. St. Jrl. Med., Vol. 54, No. 13, July 1, 1954.
3. Rosenthal, T.: Management of Psoriasis. Clin. Med., Vol. 7, No. 3, (March) 1960.



signal of
potential
danger...

SPOTTING IN PREGNANCY—"If a normal pregnancy is present, uterine bleeding and pains signify that interruption of gestation threatens."[1] When these symptoms occur, initiation of therapy with DACTIL-OB helps prolong gestation until the patient is at or near term, and thereby increases the chances of fetal survival.

Stephens[2] found that DACTIL-OB effectively forestalled premature delivery in many difficult pregnancies. DACTIL-OB contains Dactil—a compound whose spasmolytic action on uterine muscle has been utilized in a study of 618 patients with previous histories of abortion or premature delivery.[2,3] DACTIL-OB also provides hesperidin complex and vitamin C. Causes no significant side effects. Withhold only in glaucomatous patients. 78361

WHEN PREGNANCY IS IN JEOPARDY...

DACTIL®-OB

Brand of piperidolate hydrochloride, hesperidin complex and vitamin C

PREVENTIVE THERAPY FOR PREMATURE DELIVERY

Dosage: 1 tablet q.i.d. from the beginning of pregnancy in any patient with a history of previous difficulty. For detailed information send for DACTIL-OB brochure. **Composition:** Each DACTIL-OB tablet contains 100 mg. Dactil, plus 50 mg. ascorbic acid, and 50 mg. hesperidin complex.

Supplied: Bottles of 100 tablets.

References: (1) Greenhill, J. P.: Obstetrics, ed. 12, W. B. Saunders Company, Philadelphia, 1960, p. 442. (2) Stephens, L. J.: The Prevention of Premature Delivery, presented at Pacific Coast Fertility Society, Las Vegas, Nevada, Nov. 15, 1959. (3) Stephens, L. J.: Am. J. Obst. & Gynec. 75:1255, 1958.

LAKESIDE

Dulcolax®

brand of bisacodyl tablets and suppositories

the laxative with a bibliography

Geigy



The extensive bibliography* on Dulcolax, amounting to almost 100 clinical reports, strongly affirms its clinical advantages.

Induces Natural Evacuation
The action of Dulcolax is based on simple reflex production of large bowel peristalsis on contact with the colonic mucosa. As a result, stools are usually soft and well formed and purgation is avoided.

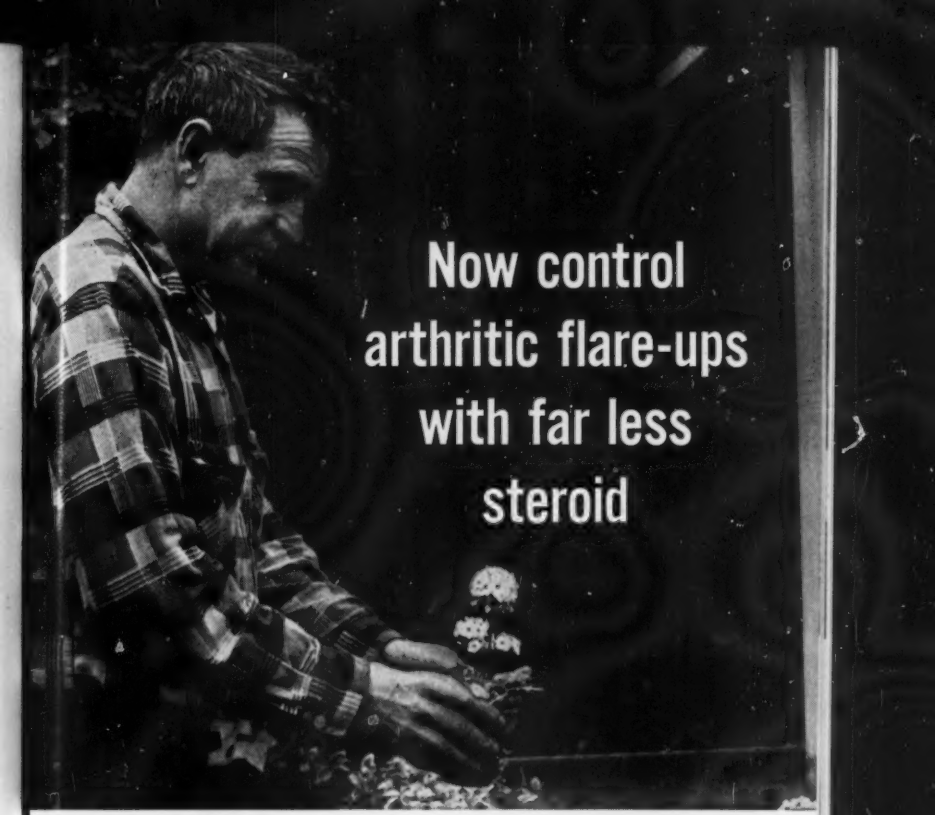
Predictable Action
With Dulcolax tablets action is almost invariably obtained overnight... with suppositories action occurs within the hour.

Wide Application
Dulcolax is as well adapted to preparation for radiographic and operative procedures as it is to the treatment of constipation.

*Detailed literature, including complete bibliography, available on request.

Dulcolax®, brand of bisacodyl: Tablets of 5 mg. and suppositories of 10 mg. Under license from C. H. Boehringer Sohn, Ingelheim.

Geigy Pharmaceuticals
Division of Geigy Chemical Corporation
Ardsley, New York DU 565-60



Now control arthritic flare-ups with far less steroid

With Somacort to relax muscles and relieve pain, tender joints need less steroid to reduce inflammation

Somacort is a safe, logical step-up in treatment during the rough days when your patients need more than salicylates to keep comfortable and active.

Soma, by itself, benefits many arthritics by relieving the muscle spasm and pain which arise from joint inflammation[1]. Thus with Somacort, which combines Soma with prednisolone, the amount of steroid needed to control inflammation can be kept within more conservative limits.

Somacort is well tolerated even when used for long-term therapy in more serious cases.

1. Wein, A. B.; The Use of Carisoprodol (SOMA) in Orthopedic Surgery and Rehabilitation, Miller, James G., ed., Wayne State University Press, Detroit, Michigan, 1959.

Recommended dosage: 1 or 2 tablets q.i.d. (Each tablet contains 350 mg. carisoprodol, 2 mg. prednisolone.)

SOMACORT

carisoprodol, Wallace, with prednisolone

Wallace Laboratories, Cranbury, New Jersey

for topical therapy
of certain types of
GLAUCOMA...



Normal visual field

Beginning contraction of visual field

Advanced contraction of visual fie

...two highly effective miotics

HUMORSOL®

Demecarium Bromide

• potent, longer-acting than other miotics • two instillations weekly are often sufficient to control glaucoma • because it is unusually potent, it may be uniquely useful in breaking up peripheral synechiae • aqueous—isotonic with conjunctival fluid • stable—refrigeration not required • 0.25% ophthalmic solution, in 5-cc. bottle with dropper

FLOROPRYL®

Isoflurophate U.S.P.

• long-acting—in glaucoma, one instillation daily is often sufficient; (in strabismus, one instillation every two days to one week) • may be effective when other agents fail • two topical dosage forms—0.1% ophthalmic solution in anhydrous peanut oil, in 5-cc. bottle with dropper; 0.025% ophthalmic ointment, in 3.5 Gm. tubes

also available: DARANIDE® (Dichlorphenamide) for oral control of intraocular pressure, 50-mg. tablets

Before prescribing or administering HUMORSOL, FLOROPRYL and DARANIDE, the physician should consult the detailed information on use accompanying the package or available on request.

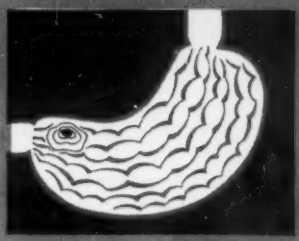
MSD **MERCK SHARP & DOHME, DIVISION OF MERCK & CO., INC., WEST POINT, PA.**

HUMORSOL, FLOROPRYL AND DARANIDE ARE TRADEMARKS OF MERCK & CO., INC.

Patients like the refreshing taste and dependability

of

Titralac*



for immediate and prolonged relief in peptic ulcer and hyperacidity

Preferred for

- potency
- immediate relief (within seconds)
- lasting effect
- milk-like action
- fresh mint flavor
- non-chalky smoothness
- freedom from effect on intestinal function

TITRALAC® TABLETS

May be chewed, dissolved in mouth, or swallowed with water. Each white, mint-flavored tablet contains glycine 0.18 Gm. and Ca carbonate 0.42 Gm. Bottles of 100 tablets.

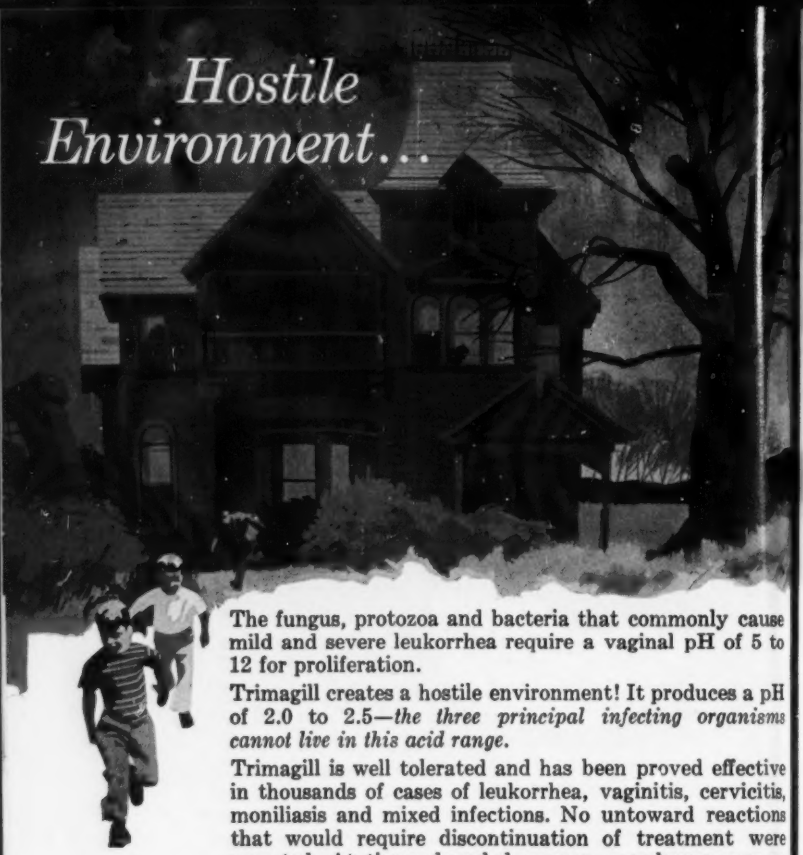
TITRALAC® LIQUID

Relief from a teaspoonful—not ounces or tablespoonfuls. Each 5cc. teaspoonful of white, mint-flavored liquid contains glycine 0.30 Gm. and Ca carbonate 0.70 Gm. Bottles of 12 fluid ounces.

*Patent No. 2429596

Rike Northridge, California

Hostile Environment...



The fungus, protozoa and bacteria that commonly cause mild and severe leukorrhea require a vaginal pH of 5 to 12 for proliferation.

Trimagill creates a hostile environment! It produces a pH of 2.0 to 2.5—*the three principal infecting organisms cannot live in this acid range.*

Trimagill is well tolerated and has been proved effective in thousands of cases of leukorrhea, vaginitis, cervicitis, moniliasis and mixed infections. No untoward reactions that would require discontinuation of treatment were reported. At times denuded mucous membranes are so irritated that Trimagill may give a *temporary* burning sensation. This is usually short lived.

Trimagill does not foster resistant mutants or result in monilia overgrowth. Trimagill may be used during menstruation.

CONTENTS: Tartaric Acid, Citric Acid, Boric Acid, Dextrose, Potassium Alum, Potassium Bitartrate and Adhesives.

SUPPLIED: Powder: 5-oz. Plastic Insufflator Bottles; Vaginal Inserts: Boxes of 24. NOTE: Consult package circular for dosage information.

Write for descriptive literature.

TRIMAGILL*

POWDER • VAGINAL INSERTS

THE S. E. MASSENGILL COMPANY

Bristol, Tennessee • New York • Kansas City • San Francisco

*Patent applied for

Patients you treat with Metahydrin respond with gratifying benefits. Cardiac patients can breathe more satisfactorily and are not so quickly fatigued by mild exertion. They maintain stable nonedematous weight and, minus the burden of edema, are better equipped to withstand the stresses of daily living which occur even in convalescence. Hypertensive patients enjoy more normal blood pressures, are relieved of headaches, tachycardia and palpitations. Adjunctive antihypertensive therapies—and their well-known side effects—can be reduced. Dietary salt restrictions are usually not necessary, or need not be severe. In any patient requiring a diuretic Metahydrin provides smooth, adequate diuresis. And because all thiazides are *not* alike, the nature of Metahydrin diuresis is more clinically desirable; it expels more water, sodium and chloride and less potassium. In other words, more benefits, fewer troubles.

"Doctor, I walked to your office today!"



METAHYDRIN®

METAHYDRIN®, brand of trichlormethiazide, Lakeside. Supplied—tablets of 2 mg. and 4 mg. in bottles of 100 and 1000. Contraindications: Complete renal shutdown; rising azotemia or development of hyperkalemia or acidosis in severe renal disease.

LAKESIDE LABORATORIES, INC. Milwaukee 1, Wisconsin


me? use vinegar?

my doctor recommends Massengill Powder!

Patients like Massengill Powder. *Its clean, refreshing fragrance and convenience are acceptable to the most fastidious.*

Massengill Powder offers other sound advantages. Massengill Powder *is buffered to maintain a pH of 3 to 4.5 for 4 to 6 hours in ambulant patients . . . 24 hours in recumbent patients.* Vinegar douches are quickly neutralized.

Massengill Powder has a low surface tension (50 dynes/cm.; vinegar is 72 dynes/cm.). *This lower surface tension means more effective penetration and cleansing of the folds of the vaginal mucosa.*

Massengill Powder is a valuable adjunct in treatment of vaginal infections. Its low pH inhibits proliferation of fungal, protozoan and bacterial pathogens but is favorable to the beneficial Döderlein bacilli.

Patient cooperation is assured when Massengill Powder is recommended. Write for samples and literature.

Formula: Ammonium Alum, Boric Acid, Phenol, Eucalyptol, Berberine Salt, Menthol Isomers, Thymol and Methyl Salicylate.

MASSENGILL® POWDER

THE S. E. MASSENGILL COMPANY

Bristol, Tennessee • New York • Kansas City • San Francisco



for the uncomfortable patient



for the distraught patient



for the overtired patient

relaxing, restful sleep

without barbiturates, bromides or narcotics



sominex®

THE SAFE SOMNIFACIENT

SOMINEX contains no barbiturates, bromides or narcotics. It is designed specifically as a bedtime sedative, and should not be used as a daytime tranquilizer.

In SOMINEX, the safe sedative action of methapyrilene is enhanced by scopolamine and salicylamide. The total effect is one of safe sedation without hang-over or danger of habituation. No prescription is required.

Each SOMINEX tablet provides: Methapyrilene HCl, 25 mg.; scopolamine aminoxide HBr, 0.25 mg.; salicylamide, 200 mg. *Dosage:* 2 tablets one-half hour before retiring. Some patients will require only one tablet. *Supplied:* vials of 18 tablets.

For a complimentary supply, please address your request to: Dept. SD, J. B. Williams, Inc., 711 Fifth Avenue, New York, N.Y.

HY-0984

Hygroton®

brand of chlorthalidone

In hypertension and edema

17 days free each month from drug administration

just one tablet Mon. Wed. Fri.

The longest-acting by far of all the new agents introduced for hypertension and edema, Hygroton provides a smoother, less abrupt action which is sustained for as long as 72 hours... can initiate and maintain therapy on just 3 doses a week... saves the patient over ⅓ in cost without sacrifice of therapeutic benefit.

Hygroton® Tablets, 100 mg., bottles of 100.



Geigy

Geigy Pharmaceuticals
Division of
Geigy Chemical Corporation
Ardsley, New York


A proven "jelly alone" contraceptive with a built-in barrier.
Koromex a
KOROMEX a is an outstanding spermatocidic agent as proved by actual use results. Easy to use. Patients approve of its aesthetic qualities . . . deodorizes without heavy residual odors . . . non-staining . . . non-messy . . . not sticky nor drying.
Recommend Koromex a for security with simplicity. Descriptive literature available upon request.
FREE: SANITARY PLASTIC ZIP-PERED KIT. For home storage, supplied at no extra charge with the large tube vaginal jelly 125 gms. and patented, measured dose applicator.
Large economy size refill tube 125 gms., also available.
ACTIVE INGREDIENTS: Boric acid 2.8%, Polyoxyethylenenonylphenol 0.5%, Phenylmercuric Acetate 0.02%, in a special barrier-type base.
HOLLAND-RANTOS CO., INC. • 145 Hudson Street • New York 13, N. Y.



if it is a muscleitis or bursitis it is Sigmagen® responsive

For six years in the vast muscle-itis and bursitis areas where analgesics fail to provide adequate relief, SIGMAGEN has offered greater certainty of clinical success.

SIGMAGEN provides a conservative, in-between level of therapy—far more capable than analgesics, yet not approaching high steroid dosage levels.

Your use of SIGMAGEN will swiftly allay the pain and quiet the inflammatory processes in mild rheumatoid arthritis, bursitis, myositis and fibrositis.

Meticorten® (prednisone)/ the classic steroid therapy	0.75 mg.
Acetylsalicylic acid/ for anti-inflammatory-analgesic action	325 mg.
Aluminum hydroxide/ buffering for better toleration	75 mg.
Ascorbic acid/ anti-stress supplementation	20 mg.

For complete details, consult latest Schering literature available from your Schering Representative or Medical Department, Schering Corporation, Bloomfield, New Jersey.

Bibliography: 1. Cohen, A., et al.: J.A.M.A. 165: 225, 1957. 2. Spies, T. D., et al.: J.A.M.A. 159: 645, 1955. 3 Moravec, C. L. and Moravec, M. E.: Clin. Med. 7:2322, 1960.

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Sigmagen®

corticoid analgesic compound

Schering

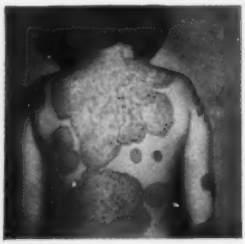


in psoriasis

Alphosyl®

allantoin and special coal tar extract

widely prescribed/clinically proven/cosmetically elegant



"Psoriasis is, today, incurable, but, psoriasis can be a very manageable disease."[1] In a recent study of 214 chronic psoriatics treated with ALPHOSYL "...every patient manifested some favorable response."[1]

1. Welsh, A. L.: Report, Conference on the Management of Chronic Dermatoses, University of Cincinnati College of Medicine, Cincinnati, Ohio, Nov. 4-5, 1959.

Available: Alphosyl Lotion in 8 oz. bottles.

REED & CARNRICK

Kenilworth, New Jersey

in acute, subacute and chronic dermatoses

Tarcortin

hydrocortisone/special coal tar extract

TAR-STEROID THERAPY



Available:

Cream/Lotion/Aerosol

SEBICAL™

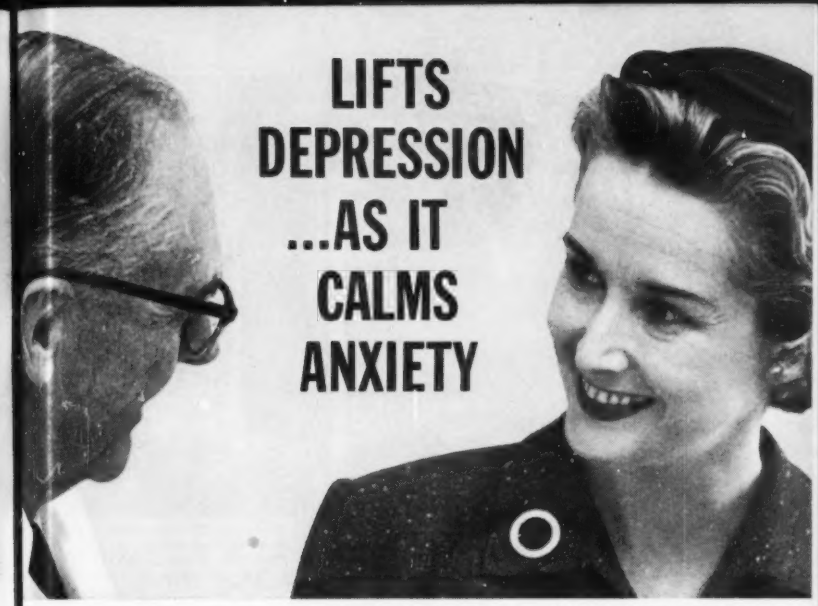
allantoin/hexachlorophene/special coal tar extract

CREAM AND SHAMPOO

clears scalp seborrheas from cradle cap to dandruff

Easy to apply and nonstaining, Sebical is virtually nonirritating, nontoxic and nonsensitizing and will not cause hair loss or discoloration.





"I feel like my old self again!" Thanks to your balanced Deprol therapy, her depression has lifted and her mood has brightened up – while her anxiety and tension have been calmed down. She sleeps better, eats better, and normal drive and interest have replaced her emotional fatigue.

Brightens up the mood, brings down tension

Balanced action—avoids "seesaw" effects of energizers and amphetamines.

Acts rapidly—you see improvement in a few days.

Acts safely—does not cause liver toxicity, anemia, hypotension, psychotic reactions or changes in sexual function—frequently reported with other antidepressants.

Dosage: Usual starting dose is 1 tablet q.i.d. When necessary, this may be increased gradually up to 3 tablets q.i.d. With establishment of relief, the dose may be reduced gradually to maintenance levels. **Composition:** 1 mg. 2-diethylaminoethyl benzilate hydrochloride (benactyzine HCl) and 400 mg. meprobamate. **Supplied:** Bottles of 50 light-pink, scored tablets. Write for literature and samples.

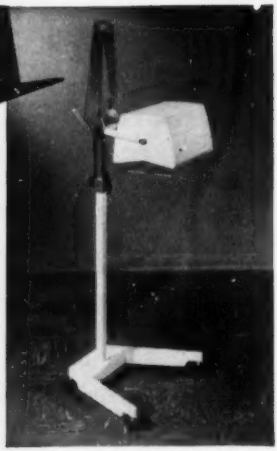
▲Deprol▲®

CD-5856

WALLACE LABORATORIES / *Cranbury, N. J.*

ANNOUNCING BURDICK'S NEW INFRARED LAMP



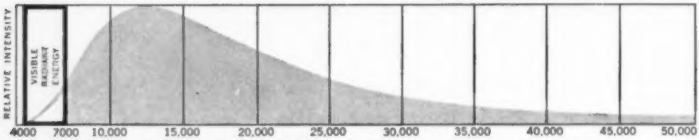


New ZOALITE 500 LAMP features long-range, retractable extension arm.

Radiant energy from the Z-500 Infrared lamp is in the spectral range capable of greater tissue penetration. Its special long-life quartz tube has almost ideal spectral characteristics for therapeutic infrared radiation. (See chart below.)

New equipoise arm permits positioning over widest treatment table. Unique counterbalanced construction holds lamp stationary. The Z-500 also has an Alzak aluminum reflector designed to project radiation evenly over the treatment area. Hot spots are eliminated.

the heart of the new Z-500 is its quartz infrared tube



RELATIVE SPECTRAL DISTRIBUTION IN ANGSTROM UNITS — BURDICK Z-500 LAMP

As will be noted from the above chart, most of its radiant energy is in the range which is capable of the greatest tissue penetration.

SEE THE NEW BURDICK Z-500 ON DISPLAY AT YOUR DEALER'S...

Burdick®

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MILTON, WISCONSIN
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Atlanta • Los Angeles
Dealers in all principal cities

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Until his cold is cured

Recommend Ben-Gay for greater comfort

BEN-GAY®, applied topically, penetrates deeply to help relieve muscular aches and congestion of head and chest colds. It is rapidly absorbed to provide local analgesia with high-concentration methyl salicylate plus soothing, menthol-induced warmth. BEN-GAY also eases muscular and joint pain caused by strain and over-exertion.

Greaseless, Stainless BEN-GAY and original BEN-GAY are available in 1¼-oz. and 3-oz. tubes. Children's BEN-GAY (greaseless, stainless only): 1¼-oz. tubes. Thos. Leeming & Co., Inc., New York 17, N.Y.

greaseless, stainless

Ben-Gay®

reliable, conservative pain relief

FOR COUGH AND COLD DEMONS...



NON-NARCOTIC

ULO®

for control of acute cough regardless of etiology



ULOMINIC®

for control of acute cough and associated allergic reactions



ULOGESIC®

for control of acute cough and for relief from associated muscular aches, pain and fever

ULO

OMINIC

LOGESIC

INHIBITS COUGH IMPULSE FOR 4 TO 8 HOURS
the threshold of the medullary cough center is elevated while the cough reflex is not abolished.

COUNTERACTS IRRITATION IN PHARYNX, LARYNX, TRACHEA AND BRONCHI
inhibits tendency of histamine to cause edema of the nasopharyngeal mucosa, local irritation, and vasodilation.

RELIEVES CONGESTION
reduces postnasal discharge, lessens irritation to pharyngeal and laryngeal membranes.

MAKES VOLUNTARY COUGH MORE PRODUCTIVE
loosens and liquefies mucus, soothes irritated bronchial mucosa.

Ulogesic enlarges the therapeutic dimensions of Ulominic

ALLEVIATES ASSOCIATED ACHES AND DISCOMFORTS AND ABORTS FEVER
elevates the pain threshold with an analgesic potency the same as acetanilid, with much less toxicity.

ULO®
non-narcotic antitussive molecule chlophedianol HCl

DIAFEN®
fast-acting antihistaminic diphenylpyraline HCl

PHENYLEPHRINE HCl
sympathomimetic

GLYCERYL GUAIACOLATE
expectorant and demulcent

APAP
acetyl-p-aminophenol analgesic and antipyretic

FORMULAS:

ULO SYRUP—Each 5 ml. teaspoonful contains:

chlophedianol HCl* [alpha-(2-dimethylaminoethyl)-o-chlorobenzhydrol • HCl]	25 mg.
chloroform, U.S.P.	0.001 ml
Alcohol 6.65 per cent in a pleasant flavored syrup base	

ULOMINIC® SYRUP—Each teaspoonful (5cc) contains:

chlophedianol HCl* [alpha-(2-dimethylaminoethyl)-o-chlorobenzhydrol • HCl]	15.0 mg.
diphenylpyraline HCl (1-methyl-4-piperidyl-benzhydryl ether • HCl)	1.0 mg.
phenylephrine HCl	5.0 mg.
glyceryl guaiacolate	100.0 mg.
alcohol	6%

ULOGESIC®—Each tablet contains:

chlophedianol HCl* [alpha-(2-dimethylaminoethyl)-o-chlorobenzhydrol • HCl]	7.5 mg.
diphenylpyraline HCl (1-methyl-4-piperidyl-benzhydryl ether • HCl)	0.5 mg.
phenylephrine HCl	2.5 mg.
glyceryl guaiacolate	25.0 mg.
acetaminophen	162.5 mg.

INDICATIONS:

For acute cough associated with:
Upper Respiratory Infections
Common Cold, Influenza, Pneumonia, Pertussis, Pleurisy, Bronchitis, Tracheitis, Laryngitis, Croup
Allergies (Ulominic and Ulogesic)

CONTRAINDICATIONS:

Although no contraindications for Ulominic or Ulogesic are known, they should be used only for acute cough.

CAUTION:

Since Ulominic and Ulogesic contain an antihistaminic agent, drowsiness may occur. As they also contain a sympathomimetic agent, they should be used with caution in coronary artery disease, glaucoma, hypertension, and hyperthyroidism.

SIDE EFFECTS:

ULO
These occur only occasionally and have been mild. Nausea and dizziness have occurred infrequently; vomiting and drowsiness rarely. As with all centrally acting drugs, an infrequent case may develop excitation, hyperirritability and nightmares. The symptoms disappear within a few hours after the drug is discontinued. In three cases (1 adult and 2 children) where the drug was continued in large or even excessive amounts after stimulation was present, hallucinations developed. Upon withdrawal of the medication, the patients recovered rapidly within a few hours.

ULOMINIC and ULOGESIC
Side effects from ULOMINIC or ULOGESIC occur occasionally and are mild. Nausea, dizziness, and dryness of the mouth occur infrequently; vomiting and drowsiness rarely.

DOSAGE:

ULO
Adults: 25 mg. (1 teaspoonful) 3 or 4 times daily as required.
Children: 6 to 12 years of age—12.5 to 25 mg. (½ to 1 teaspoonful) 3 or 4 times daily as required.
2 to 6 years of age—12.5 mg. (½ teaspoonful) 3 or 4 times daily as required.

ULOMINIC
Adults: One teaspoonful (5 cc) four times daily.
Children: 6 to 12 years—½ teaspoonful (2.5 cc) 4 times daily.
2 to 6 years—¼ teaspoonful (25 drops) 4 times daily.

ULOGESIC
Adults: Two tablets 4 times daily.
Children: 6 to 12 years—one tablet 4 times daily.

AVAILABILITY:

ULO SYRUP Bottles 12 oz.

ULOMINIC SYRUP Bottles 1 pint.

ULOGESIC TABLETS
Bottles of 100 tablets.

CAUTION: Federal Law prohibits dispensing without prescription.

Riker

RIKER LABORATORIES, INC.,
Northridge, California

* PATENTS PENDING



new infant formula
nearly identical to mother's milk[1] in nutritional breadth and balance

Enfamil®

Infant formula

Enfamil babies are satisfied babies. Weight gains are good, and regurgitation is minimal. **Normal stool patterns.** Enfamil was compared with 3 other formulas in a well-controlled institutional study.[2] Stool frequency was low, and stool consistency was intermediate between the extremes of firmness and softness.

1. The Composition of Milks, Publication 254, National Academy of Sciences and National Research Council, Revised 1953. 2. Brown, G. W.; Tuholski, J. M.; Sauer, L. W.; Minsk, L. D., and Rosenstern, I.: J. Pediat. *56*:391 (Mar.) 1960.

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